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PERSPECTIVES

ON LABOUR AND INCOME

Autumn 2008
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- Fathers' use of paid parental leave
- Work-life balance of shift workers
- Remittances by recent immigrants
- A profile of the Canadian Forces
- Changes in family wealth
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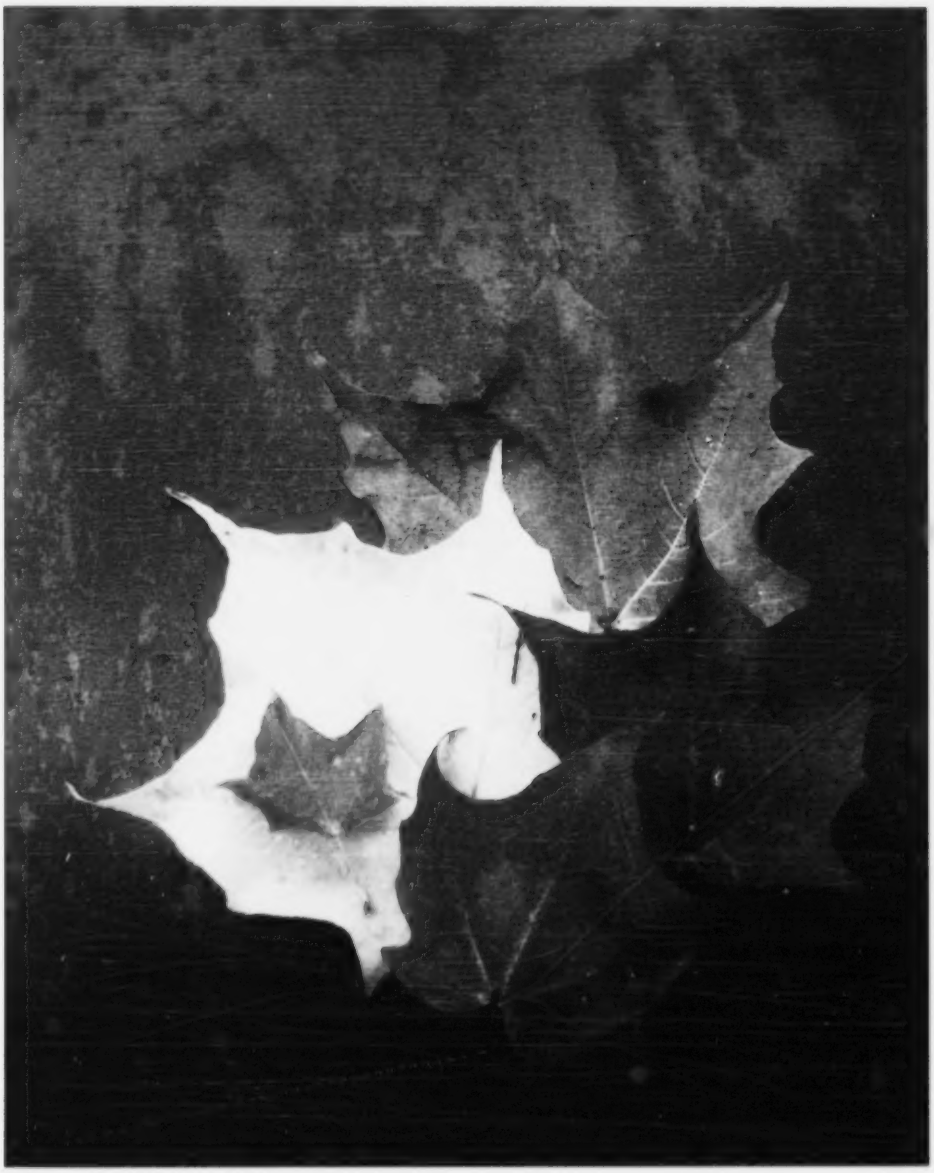

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In 2001, shareable parental leave benefits under the federal Parental Benefits Program increased from 10 to 35 weeks, and in 2006 Quebec introduced its Parental Insurance Program. These changes led to a significant increase in the number of fathers claiming paid parental leave benefits. Between 2000 and 2006, the proportion of fathers claiming parental benefits jumped from 3% to 20%. The most common reasons for fathers not claiming the benefits were family choice, difficulty taking time off work and financial issues.

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More than a quarter of employed Canadians work something other than a regular daytime schedule—regular evenings or nights, rotating or split shifts, casual or on-call jobs or irregular shifts. This article focuses on shift work among full-time workers aged 19 to 64 and looks at where and among whom it is most prevalent. Work-life balance, role overload and other indicators of well-being are also examined.

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Grant Schellenberg and René Houle

During their initial years in Canada, a significant minority of new immigrants send money to family members in their country of origin. The incidence of remitting among immigrants from different countries ranges from less than 10% to over 60%, and the annual amounts from about $500 to almost $3,000. While financial and family characteristics are consistently significant with the remittance activities of immigrants from all world regions, factors such as sex and education are significant only for immigrants from some regions but not others.

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Canada's military makes up a small but significant segment of Canadian society and is an important part of the country's national image, both at home and abroad. After declining through the 1990s, the forces have grown since 2001, reaching 88,000 in 2006. This article profiles the personnel of the Canadian Forces as a special occupational group distinct from the rest of the Canadian labour force. It also compares the military's prevalence of rates of work stress and other work-related mental health issues with those of the civilian working population and investigates whether any specific groups experience a higher prevalence.

53 Changes in family wealth

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Buoyed by rising incomes coupled with stable inflation and low interest rates, Canadians went on a spending spree between 1999 and 2005. However, much of the increased spending was financed through credit, as the personal savings rate slumped and per capita debt jumped. This paper divides families into seven cohorts, based on the year of birth of the major income recipient, and compares family assets and debts in 2005 with the situation in 1999 to provide a rough life-cycle portrait of Canadian families.

Symbols

The following standard symbols are used in Statistics Canada publications:

. not available for any reference period
.. not available for a specific reference period
... not applicable
0F not statistically significant
P preliminary
r revised
x confidential
E use with caution
F too unreliable to be published

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Highlights

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- In 2001, the federal Parental Benefits Program increased shareable parental leave benefits from 10 to 35 weeks. In 2006, Quebec introduced its own Parental Insurance Program, including a five-week non-transferable leave for fathers. As a result, the proportion of fathers claiming paid parental leave increased significantly—from 3% in 2000 to 10% in 2001, and again from 15% in 2005 to 20% in 2006.
- In 2006, 56% of eligible fathers in Quebec claimed benefits for an average of 7 weeks compared with 11% of fathers outside Quebec who did so for 17 weeks.
- Fathers were significantly more likely to claim benefits if they lived in Quebec and if they had a co-claiming spouse who earned the same or more than they did. More than half of fathers outside Quebec who claimed parental leave benefits were the sole person in the household to do so.
- The most common reason for eligible fathers not claiming benefits was family choice (40%), followed by difficulty taking time off work (22%) and financial issues (17%).
- Internationally, 13 of 20 OECD countries have national paid parental leave programs with at least two weeks available to the father. Of these, 9 use legislation to encourage fathers' participation.

Work-life balance of shift workers

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- In 2005, about 4.1 million individuals aged 19 to 64 worked something other than a regular day shift; 2.3 million worked a rotating or an irregular shift schedule.
- Satisfaction with work-life balance was lower among shift workers than among regular day workers—while 76% of day workers were satisfied with their work-life balance, only 69% of shift workers were satisfied.
- Role overload, too much to do and not enough time to do it, occurred more frequently among shift workers, especially women.
- For both men and women, job satisfaction was positively associated with satisfaction with work-life balance and being able to avoid role overload.
- For men, working shift was associated with lower odds of being satisfied with their work-life balance, and shift work was a significant predictor of role overload for both women and men.
- For women, having a spouse and children or being a lone parent was associated with lower odds of being satisfied with work-life balance or avoiding role overload; for men, family type was significant only for role overload.

Remittances by recent immigrants

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- Within 6 to 24 months of landing, 23% of immigrants sent remittances to their home country, while 29% did so 25 to 48 months after landing.
- The incidence of sending money varied considerably by country of origin. Some 60% of immigrants from the Philippines and Haiti sent remittances 25 to 48 months after landing. About 40% to 50% of immigrants from Jamaica, Nigeria, Romania, Guyana and Ukraine sent money, but less than 10% of immigrants from France, the United Kingdom and South Korea did so.

- Of the immigrants who remitted 25 to 48 months after landing, those from 11 of 24 countries sent an average amount of between $1,700 and $2,200, while immigrants from 7 other countries sent between $2,700 and $3,700.
- The incidence of remitting was highest among those from countries with lower GDP per capita. During the 25 to 48 months after landing, around 36% of immigrants from countries with per capita GDP of less than $4,000 sent money home, compared with only 11% from countries with per capita GDP of $15,000 or more.
- Financial capacity and family obligations are correlated with the likelihood of sending remittances. Immigrants who had family incomes of $70,000 or more were more than three times as likely to send money home as those with family incomes of less than $10,000. Immigrants with three or more children at home were far less likely to send money abroad than those with no children.

A profile of the Canadian Forces ... p. 39

- After a steady decline in the 1990s, the number of personnel in the Canadian Forces has increased since 2001. In 2006, the CF comprised 64,000 full-time regular force members and 24,000 reservists.
- Compared with civilian workers, CF members are much younger (more than 70% under age 40 versus only 53% of civilian workers), predominantly male (85% vs. 53%) and white (94% vs. 83%).
- Education and income levels of CF personnel have significantly increased over the past decade. Almost 70% of reservists had postsecondary graduation and average earnings of regular forces personnel were higher than those of other public sector employees.
- Compared with the overall working population, CF members reported higher rates of life (5%) and job dissatisfaction (13%), job strain (28%), major depression (7%), and self-perceived negative mental health (8%).

Changes in family wealth ... p. 53

- The overall debt-to-income ratio for Canadian families climbed from 1.02 in 1999 to 1.21 in 2005 as the average debt jumped by one-third from $62,700 to $82,500, but income increased by only one-tenth from $61,600 to $68,100.
- In both years, the proportion of families carrying debt peaked at over 80% when the family's major income recipient was in their 30s and fell below 20% when major income recipient was 75 or over.
- Despite a heavier debt load in 2005, families were wealthier on average than in 1999 as net assets rose from $281,000 to $380,700. The increase was almost evenly divided between non-financial and financial holdings.
- Overall, neither the distribution nor the inequality of wealth changed between 1999 and 2005 even though more families were worth at least one million dollars and fewer were wholly dependent on government transfers.

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  Time use of working parents in the U.S.

Fathers' use of paid parental leave

Katherine Marshall

Although the objectives of international paid leave programs are not identical, one universal goal is to help families balance or reconcile work and family responsibilities—which in turn is intended to increase the well-being of children. To this end, emphasis has been put on extending leave time for parents and encouraging the father's involvement. Research has shown that a father's involvement has a positive effect on co-parenting and partner relationships, personal development, and the social, emotional, physical and cognitive development of children (Allen and Daly 2007). Even short-term paid leave for fathers has been linked to positive outcomes, which can set the stage for longer-term involvement (Moss and O'Brien 2006).

As is the case in many other Organisation for Economic Co-operation and Development (OECD) countries, Canada's paid parental leave policies have changed considerably in recent years. Two key changes to the federal Parental Benefits Program (PBP) in 2001 were the increase in the number of shareable paid benefit weeks per family from 10 to 35 and the elimination of a second two-week unpaid waiting period. In 2006, Quebec began administering its own separate Parental Insurance Plan (QPIP) offering, for example, higher benefit rates, no unpaid waiting period and a five-week non-transferable paternity leave.

This article uses the 2006 Employment Insurance Coverage Survey (EICS) to examine fathers' use of paid parental leave in Quebec and the other provinces. Recent revisions to the questionnaire enable the assessment of how parental leave is shared by spouses, as well as the number of weeks of paid leave the father uses and reasons for not claiming parental leave benefits (see *Data source and definitions*).

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Data source and definitions

The Employment Insurance Coverage Survey (EICS) has been an annual supplement to the Labour Force Survey since 1997. Its main purpose is to study the coverage of the Employment Insurance program. To coincide with the expansion of the parental leave program on December 31, 2000, several new questions were added to collect information from new mothers on access to and use of parental leave. More parental leave content was added in 2004 and 2005. For example, a question regarding the number of weeks the spouse (father) intends to take was introduced only in 2005. In 2006, some questions were modified because of the change in jurisdiction of parental benefits in Quebec.

All questions regarding a father's use of parental leave benefits are answered by the mother. In some cases, the father may not yet have taken leave but planned to do so. At the time of the survey it is not possible to distinguish between fathers who had already taken leave or were currently on leave, or whose leave was upcoming. For ease of description, all cases are labelled as fathers who claimed and received benefits.

The **target population** for this study was all mothers living with a spouse and children less than 13 months of age in 2006. The sample of roughly 1,130 mothers represented 325,000 couples.

Parental benefits are available to previously employed qualifying parents (see *Details of the PBP and the QPIP*). For the purpose of this study, parental and paternity leave benefits are used interchangeably when referring to Quebec. The EICS did not differentiate between the types of QPIP paid benefits fathers claimed.

An **eligible father** is someone who claimed parental leave benefits or someone who did not claim for any reason other than ineligibility. Mothers were asked to report why their spouse did not claim benefits, including the category 'not eligible.'

Monthly income before birth was determined from a direct question asking mothers to report their total household income from all sources in the month before the birth or adoption.

Earnings ratio is the mother's average hourly earnings multiplied by her average hours worked divided by the father's earnings and hours worked. If the ratio was 1 or greater, the mother was deemed to earn the same as or more than the father. If either spouse was self-employed, the ratio could not be calculated.

Many European programs actively encourage paternal participation

Fathers' participation in parental leave programs and the time taken have become a prominent area of public policy debate and development in many OECD countries (Moss and O'Brien 2006). Some countries have used legislation as a method to help raise the parental leave take-up rate among fathers. This has been done mainly by creating individual, non-transferable periods of leave for each parent as well as additional time that can be used by either parent (see *International comparisons*). Countries with this form of program include Belgium, Iceland, Luxembourg, Norway and Sweden. In other countries, the entire parental leave period can be used by either or both parents, but additional or bonus weeks of paid leave are offered if the father claims some of the leave (e.g. Austria, Finland, Germany and Italy).

Not surprisingly, countries with the highest paternal participation rates include those with non-transferable leave programs that also offer high-wage replacement rates, mainly Nordic countries—Sweden (90% participation rate), Norway (89%) and Iceland (84%). Parental leave take-up rates are lower for fathers and mothers in countries where the earnings replacement rate is low, regardless of the type of leave program—Belgium has a paternal participation rate of under 7%, Austria, 2% and France, 1%. In other words, since most countries do not replace all earnings for parents on leave, and since men, on average, earn more than women, families may be dissuaded from having the father claim parental leave because of the greater financial burden (Moss and O'Brien 2006). However, at the same time, the economic stability of the family is recognized as another key factor in the well-being of children.

Canadian programs have also evolved

Since 1971, mothers with enough insurable weeks of employment have been able to claim up to 15 weeks of paid maternity leave—considered special benefits under the current Employment Insurance Program (EI). In 1990, the Parental Benefits Program (PBP) introduced 10 weeks of paid leave available for sharing by qualifying parents for the care of their newborn. Further amendments to the EI Act (December 31, 2000) effective in 2001 extended PBP benefits to 35 weeks, eliminated the second two-week waiting period if both parents wanted to use some of the leave, reduced the required number of annual employment hours from 700 to 600 and allowed earnings up to 25% of benefits per week without reduction.[1] The PBP is deemed a core component of the National Children's Agenda and, as in other countries, is designed to "promote child development" and help parents "balance the demands of work and very young children" (HRSDC, 2005). An evaluation of these changes found positive outcomes related to the aforementioned objectives, including the length of leave taken, the length of breastfeeding, and the quality of parent and child interactions (HRSDC 2005).

Another social objective[2] of the enhanced PBP is to "promote gender equality" by advancing the uptake rate of fathers and the sharing of benefits between spouses (HRSDC 2005). It is generally expected that an increase in fathers' use of paid parental leave will help break down gender stereotypes, in turn helping to achieve gender equity. For example, assumptions that only mothers use parental leave "can fuel employment discrimination against the recruitment and promotion of women" while at the same time making it difficult for fathers to take leave because it "conflicts with workplace cultures and expectations about the

International comparisons

Consistent data on international practices regarding paid paternity and parental leave are difficult to find. Collection methods, program rules and regulations, and presentation of the results vary considerably. However, despite the challenges, interest in the subject is mounting and concerted efforts have recently been made to make international comparisons. For example, the International Network on Leave Policy and Research, established in 2004, produces an annual report on maternity, paternity and parental leave policies in over 20 countries. Recent international research from several sources is presented below. Thirteen of the 20 OECD countries under consideration offer paid paternity or parental leave of at least two weeks to fathers. Seven countries do not have such leave, including Australia, the United Kingdom and the United States. Belgium, Iceland, Luxembourg, Norway and Sweden offer non-transferable leave to both mothers and fathers. Denmark used to have non-transferable parental leave for fathers until 2002, when legislation changed the two-week period back to 'family' benefits. In Canada, Quebec offers an exceptionally long non-transferable paternity leave of 5 weeks.

International comparisons (concluded)

Selected OECD countries with more than two weeks of statutory paid paternity or parental leave available to fathers

		Paid parental leave			
	Paid paternity	Allocation[1]	Earnings replacement	Take-up[2]	Special incentives for fathers
Austria 2006	None	18 months, family	Flat rate (low benefits)	2%	6 extra months
Belgium 2006	10 days	24 weeks: 12, mother; 12, father	Flat rate (low benefits)	<7%	
Canada 2006					
Quebec	5 weeks	32 weeks, family	55-75%	48%	
Rest of Canada	None	35 weeks, family	55%	10%	
Denmark 2006	2 weeks	32 weeks, family	Unemployment benefit rate	62%	
Finland 2005	3 weeks	26 weeks, family	43-82%	10%	2 extra weeks
France 2006	11 days	36 months, family	Flat rate (half minimum wage)	1%	
Germany 2007	None	12 months, family	67%	9%	2 extra months
Iceland 2005	None	9 months: 3, mother; 3, father; 3, family	80%	84%	
Italy 2006	None	10 months, family	30%	7%	1 extra month
Luxembourg 2006	2 days	12 months: 6, mother; 6, father	Flat rate (minimum wage)	17%	
Norway 2006	None	54 weeks: 9, mother; 6, father; 39, family	80-100%	89%	
Portugal 2006	5 days	15 days, father	100%	30%	
Sweden 2006	2 weeks	68 weeks: 8, mother; 8, father; 52, family	80%	90%	

1. Family leave can be shared between parents; leave by sex is non-transferable (if a parent does not use the leave, it is forfeited).
2. Although this is meant to refer to fathers' participation rate in parental leave, as in the case of Quebec, it is not always clear if a distinction has been made between paternity and parental leave.

Sources: Ando et al. (2007); Moss and Wall (2007); European Commission (2006); Moss and O'Brien (2006); Plantenga and Remery (2005); websites www.stakes.fi and www.dw-world.de.

appropriate behaviour for men" (Anxo et al. 2007). The PBP change to eliminate the second two-week waiting period for co-claiming parents was intended to give parents more choice and to encourage the sharing of work and family responsibilities. It also allowed for a "significant reduction in the cost to a father hoping to take just a few weeks of benefits" (Phipps 2006). Indeed, research has shown an increase in benefit-sharing since the most recent PBP revision (HRSDC 2005; Marshall 2003).

In March 2005, Quebec reached an agreement with the federal government to run its own, substantially different, parental leave program. One main variation in the basic Quebec Parental Insurance Plan (QPIP) is the inclusion of a five-week individual, non-transferable paternity leave paid at 70% of previous earnings. Other major differences in the QPIP, which came into effect in January 2006, include coverage for the self-employed, higher rates of pay for maternity leave and parental leave and no minimum number of hours worked in order to qualify for leave (see *Details of the PBP and the QPIP*).

One in five fathers claims benefits

The proportion of fathers taking time off and receiving paid parental leave benefits has increased sharply, from 3% in 2000 to 20% in 2006 (Chart A). The 2006 rate actually jumps to almost one in four (23%) if ineligible fathers (those without enough paid work hours or the self-employed outside Quebec) are excluded from the calculation.[3] However, whether paid or not, the majority of fathers take some time off when children are born. Recent research found that 55% of fathers were absent from their job around the time of their child's birth, with many using short-duration annual vacation leave (21%) or unpaid leave (11%) (Beaupré and Cloutier 2007).

The change over time in fathers' uptake of parental benefits is noticeably tied to the rules of the program. Perhaps because of the relatively short duration of leave available prior to 2001 (10 weeks), and the rule requiring both qualifying parents to undergo an unpaid two-week waiting period, very few fathers participated—only 3% in 2000. However, after paid benefits were extended to 35 weeks and the two-week waiting period was applied to only one parent, the proportion of fathers filing for parental leave benefits jumped to 10% in 2001. Apart from rule changes, rising take-up rates by fathers may also be influenced by a cultural shift that embraces fatherhood and men's involvement with their children (Daly 2004). In-depth qualitative analyses have shown that views of traditional mothering and fathering roles are changing in Canada (Doucet 2006). Further examples of this shift include the significant increase in fathers' participation in and time spent on primary child care, and the jump in the proportion of fathers as the stay-at-home parent in single-earner families (Marshall 2006). Yet another indicator of fathers' evolving role in caregiving is the increase in the average number of days they miss from work for personal or family responsibilities when preschool children are in the household—for example, up from 1.8 days in 1997 to 6.3 days in 2007 (Statistics Canada 2008). The corresponding numbers for women were 4.1 and 4.8.

Chart A One in five fathers now file for parental leave benefits

* significant difference from the previous year at the 0.05 level
1. Available only to mothers.
Source: Statistics Canada, Employment Insurance Coverage Survey.

The significant rise in the rates of fathers claiming parental leave in 2005 (15%) and 2006 (20%) is mainly attributable to the introduction of the QPIP and the subsequent increase in the participation of Quebec fathers. On the other hand, the take-up rate for mothers has remained steady in recent years at just over 60%.

More Quebec fathers claim—but for shorter periods

Without doubt the QPIP had a profound influence on fathers' use of paid leave in Quebec. Of those eligible for the program, 56% claimed benefits in 2006, up from 32% in 2005 (Table 1). The participation rate

Table 1 Eligible fathers claiming paternity or parental leave and weeks taken

	Total	Quebec	Elsewhere
Couples with eligible fathers		'000	
2004	244	57	188
2005	263	67	196
2006	271	73	198
Fathers' claim rate		%	
2004	12	22*,E	9
2005	18*,†	32*	13
2006	23	56*,†,1	11
Mother receiving maternity or parental leave			
Yes[1]	25	64*	8E
No	19	F	18E
Average weeks off[2]		weeks	
2005	12	13E	11
2006	11	7*,†	17*
Mother receiving maternity or parental leave			
Yes	7	6*	13E
No	22	F	22

* significant difference between Quebec and the other provinces at the 0.05 level

† significant difference from previous year at the 0.05 level

1. In 2006, mothers in Quebec were more likely to receive maternity or parental benefits (77%) than those living elsewhere (62%).
2. Of those who claimed. Fathers' time off was not asked in 2004.

Source: Statistics Canada, Employment Insurance Coverage Survey, 2004 to 2006.

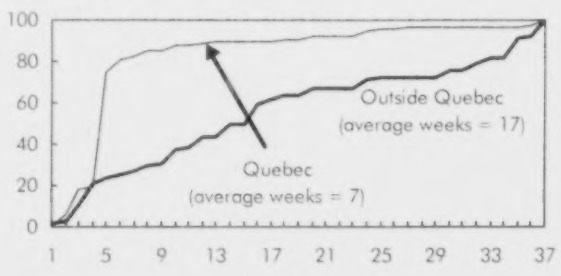
for fathers outside Quebec remained steady over the three years examined, at around one in ten.[4] However, even though the parental leave benefit program was the same across Canada prior to 2006, Quebec had a consistently higher proportion of fathers claiming benefits, perhaps representing some cultural differences.

Furthermore, an above-average proportion of Quebec fathers claimed paid benefits if their partner was also a recipient (64% versus 56%), whereas fathers outside Quebec were less likely to claim if their partner claimed (8% versus the overall average of 11%). Although sample size restricted a detailed analysis, the different patterns are likely linked to the reasons the mothers were not in receipt of benefits. Perhaps as a result of the varying eligibility rules of the PBP and QPIP programs, women in Quebec are more likely to receive benefits than women in other provinces (77% versus 62%). For example, self-employed workers are covered in Quebec and no minimum weeks of work are required for eligibility (see *Details of the PBP and the QPIP*). In non-claiming Quebec couples in 2006, both partners may have been unaware of the new paternity leave. For example, of those who stated "Did not know he could claim benefits" as the main reason for not filing (representing 8% of all couples where the father did not claim), the vast majority (86%) were in couples where the mother did not receive benefits.

For the mothers not in receipt of benefits in the rest of Canada (38%), many would have been employed but not eligible because of too few hours worked or being self-employed, and research shows that women in these situations take less time off from work than those employed and with benefits (Marshall 2003). Therefore, the fathers in these couples may be more inclined to participate in the PBP program so that at least one of the partners uses some of the available benefits. For example, one in five fathers outside Quebec (18%) filed for parental leave benefits when their spouse did not claim, for an average duration of 22 weeks.

In terms of time taken, the average benefit weeks fathers claimed in Quebec was 13 in 2005 and 7 in 2006. Although the survey did not differentiate between paternity and parental leave benefits, it seems that in 2006 most men in Quebec used all the non-transferable paternity benefits (maximum of 5 weeks available), but only a minority opted to use some of the 32 additional weeks available to either parent. Of the eligible fathers in Quebec who claimed, three-quarters received benefits for five weeks or less (Chart B).

Chart B Three-quarters of Quebec fathers claimed benefits for five weeks or less



Source: Statistics Canada, Employment Insurance Coverage Survey, 2006.

Details of the PBP and the QPIP

As of January 1, 2006, the Quebec Parental Insurance Plan (QPIP) replaced the federal Employment Insurance Parental Benefits Program (PBP) for the administration of paid benefits associated with birth or adoption for parents in that province.

Below is a summary of the benefits and rules for the two programs in 2006. (More detailed information on the two programs can be found on the respective government websites: www.rqap.gouv.qc.ca and www.hrsdc.gc.ca; also see Phipps 2006.)

Parental benefits program	Parental insurance program (basic plan)[1]
Birth mothers	
• 15 weeks of maternity leave	• 18 weeks of maternity leave
• 55% of average earnings up to a maximum of $39,000 in 2006 ($413 per week)	• 70% of average earnings up to a maximum of $57,000 in 2006 ($767 per week) (adjusted every year)
• two-week waiting period	• no waiting period
• requires 600 hours of paid work in past year	• requires at least $2,000 of earnings in past year
• self-employed excluded	• covers salaried and self-employed
• non-flexible	• some flexibility
Birth fathers	
• not applicable	• 5 weeks of paternity leave
All parents (birth and adoptive)	
• 35 weeks of parental leave	• 32 weeks parental leave for birth parents
• taken by one or shared by both	• 37 weeks parental leave for adoptive parents
• same rules as maternity leave but no second waiting period required	• taken by one or shared by both parents
	• same rules as maternity except for benefit rate: 7 weeks at 70%, rest at 55% for birth parents; 12 weeks at 70%, rest at 55% for adoptive

1. Parents can choose between the basic or the special plan. In all types of benefits—maternity, paternity, parental or adoption—the special plan offers fewer benefit weeks (15, 3, 25 and 28, respectively) at an income-replacement rate of 75%.

Perhaps because paternity and parental benefits are listed as separate programs, men in Quebec are more inclined to participate in only one. The situation outside Quebec is reversed—among fathers who claimed, the average time off actually rose from 11 weeks in 2005 to 17 weeks in 2006, representing almost half of the parental leave time available. This relatively long duration likely arose because more than half of claiming fathers outside Quebec were the sole claimant in the household.

Main income earner also influences fathers' participation

Many factors can influence an eligible father's decision to use available parental leave. An analysis of 30 European programs found five main determinants of take-up rates by fathers—payment level (financial impact), organizational and social culture (expected roles for men and women), program flexibility (when and how leave can be taken), labour market (employer attitude and perceived career advancement), and educational level of parents (Plantenga and Remery 2005). The data in this study allowed an examination of education and income-related factors, and although it could not address the subtler issues of cultural and employer attitudes, the survey did include one question about why the father did not file for benefits. These characteristics of eligible fathers using parental leave were examined in a logistic regression model. Separate models were run for fathers inside and outside Quebec.

Participation in the federal PBP has a potentially greater financial impact on a family than does the basic QPIP because of the earnings replacement rates—55% and 70% respectively. Although some employers offer supplementary top-ups to compensate for reduced earnings, the majority of parents on paid leave do not receive such income. In 2006, 21% of mothers in receipt of parental leave benefits also reported receiving an employer top-up—29% in Quebec and 17% outside Quebec.[5] The more generous non-transferable paternity benefit in Quebec is probably part of the reason the regression results show fathers in that province to be 10 times more likely to claim benefits than fathers living in other provinces (Table 2).

Although the proportion of fathers claiming parental leave benefits is higher when either partner has a college-level education or above, controlling for income factors such as household income before birth,

Table 2 Eligible fathers' participation in paid parental leave (PL)

	Total	Claimed PL[1]	Odds ratio[2]		
			Overall	Quebec	Outside Quebec
	'000	%			
Total	**271**	**23**	...	...	...
Quebec	73	56	10.2*	...	...
Elsewhere (ref)	198	11	1.0	...	...
Father's education					
College diploma or above	147	26	1.2	1.2	1.2
Less than college diploma (ref)	124	19	1.0	1.0	1.0
Mother's education					
College diploma or above	183	27	1.4	1.5	1.2
Less than college diploma (ref)	88	16	1.0	1.0	1.0
Household income month before birth					
Less than $2,500 (ref)	60	23[E]	1.0	1.0	1.0
$2,500 to $4,999	109	23	1.1	0.8	0.9
$5,000 or more	93	23	1.1	1.2	0.7
Mother receiving PL	189	25	...	...	...
Earns less than father (ref)	102	20	1.0	1.0	1.0
Earns the same or more than father	55	37	2.5*	3.5*	2.5
Earning ratio not known	31	F	1.3	2.7	0.8
Mother not receiving PL	83	19	1.5	0.3	3.4*

* statistically significant from the reference group (ref) at the 0.05 level
1. Excludes fathers whose claim status is unknown.
2. This logistic regression calculation indicates whether certain variables significantly increase or decrease the chances (odds) of the father claiming parental leave benefits.
Source: Statistics Canada, Employment Insurance Coverage Survey, 2006.

maternal receipt of maternity/parental benefits and the mother's earnings relative to the father's shows that education does not make a significant difference.

The average household income in the month prior to the birth or adoption also does not appear to make a difference, as households in all income ranges reported roughly the same take-up rates by fathers. This particular income measure may not reflect the true usual monthly income since some mothers may already have been off work in the month prior to the birth. However, another factor supporting the finding is that an equal proportion of all household types reported "money-related matters" as the main reason the father did not claim benefits. Overall, roughly one in five households from each of the different income groups reported finances as the main reason (data not shown).

Another financial consideration is the income a family will lose when one or both parents choose to stay home, with or without paid benefits. Unless individuals receive an employer top-up, or they choose not to take a break from work, the income of most families will decrease after birth.[6]

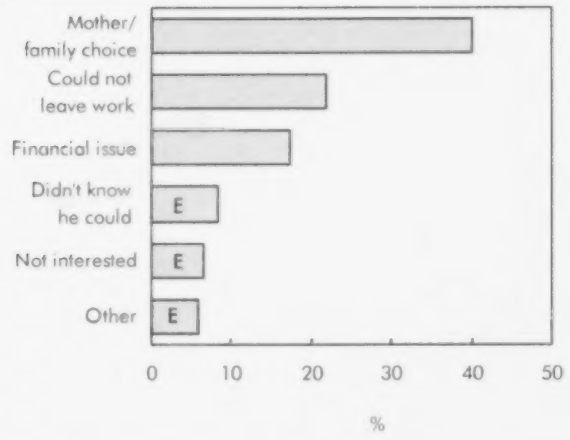
In couples where the mother earned the same as or more than the father and received benefits, 37% of fathers claimed some of the parental leave benefits. After controlling for household income and level of education, fathers in these families were 2.5 times more likely to file for benefits than those in families where the mother received benefits but earned less than the father. This strongly suggests that some families take into account whose salary reduction will be larger before deciding who will file for benefits in order to minimize the loss, but that overall household income level does not make a difference. If the income loss is equal or higher if the mother stays home, couples are more likely to share the benefits. In other words, in terms of a father's participation in the PBP or QPIP program, total family income is not as important as how much the family will lose if the father rather than the mother stays home. This finding is significant at the 0.004 level for all couples, the 0.05 level for couples in Quebec and 0.09 for those outside Quebec.

Finally, regression analysis confirms that fathers outside Quebec are more likely to claim benefits if their partner does not claim benefits. After controlling for other factors, fathers outside Quebec were 3.4 times more likely to claim parental leave if their spouse did not claim leave than fathers with spouses who claimed and earned less.

Social factors also important

When asked why their eligible spouse did not apply for parental benefits, 4 in 10 mothers reported that it was the preferred arrangement of the mother or the family

Chart C Eligible fathers not claiming most commonly did so by choice



Note: The reason was reported by the mother.
Source: Statistics Canada, Employment Insurance Coverage Survey, 2006.

(Chart C). Some common responses in this category included: the mother wanted to take all of the weeks; it was more practical; the mother was nursing; and it was a personal decision. A decision based on individual preference is complex and difficult to predict since it is often influenced by emotions, attitudes and expectations. As shown, a family decision on whether the father claims some of the parental benefits is not based entirely on income and earnings considerations.

However, apart from preference, a sizeable minority of other reasons were given for fathers not claiming. The second most common was that it was impossible to take time off from work (22%). Although not specified, this could reflect logistical problems in taking a break from work, or a perception that the employer would not permit it. Other main reasons included finances (17%), no knowledge of the program (8%) and lack of interest (7%).

Claim patterns vary

Other information in the survey included the timing of the father's parental leave claim in relation to the mother's. Among couples where the father claimed benefits, in roughly half the spouses claimed at the same time, in one-quarter they claimed at different times, and in one-quarter only the father claimed—with co-claiming fathers taking an average of 6 weeks off and sole-claiming fathers, 22 weeks (Table 3). However, this overall pattern masks considerable differences between Quebec and the rest of Canada.

In the majority of couples in Quebec (70%), the father claimed benefits at the same time as the mother for an average of 6 weeks; in the majority of couples outside Quebec (79%), the father was not claiming benefits at the same time as the mother and they claimed for an average of 20 weeks. In fact, 55% of fathers outside Quebec who claimed had a wife who did not claim benefits.

Conclusion

Paid leave programs are intended to help parents balance work and family responsibilities. As well as extending leave, many countries view increased paternal involvement as another means of reaching this goal. To encourage fathers' participation in paid parental leave, some countries have made program rules more flexible, offered bonus weeks as incentive for fathers, or created non-transferable paternal leave periods.

Table 3 Claim patterns for couples where the father claimed parental leave

	Total	Quebec	Elsewhere
Total	**62,200**	**39,800**	**22,400**
		%	
Claimed same time as mother	53	70	F
Did not claim with mother	47	30	79*
Only father claimed	26	F	55
Claimed separately	22	F	F
		Average weeks off[1]	
Overall	**11**	**7**	**17***
Claimed same time as mother	6	6	F
Did not claim with mother	16	11	20*
Only father claimed	22	F	22
Claimed separately	10[E]	F	F

* significant difference from Quebec at the 0.05 level
1. Excludes cases where the length of claim time is unknown.
Source: Statistics Canada, Employment Insurance Coverage Survey, 2006.

In 2001, the federal Parental Benefits Program increased the length of shareable paid parental leave benefits from 10 to 35 weeks and eliminated the second two-week unpaid waiting period for co-sharing parents. Shortly after these changes were made, mothers increased the time they stayed at home and fathers increased their overall participation rate from 3% in 2000 to 10% in 2001 (Marshall 2003).

In 2006, Quebec introduced its own Parental Insurance Plan, which included higher benefit rates, no unpaid waiting period, and a five-week non-transferable leave for fathers. One result of these changes was a jump in the proportion of eligible fathers in Quebec claiming benefits from 32% in 2005 to 56% in 2006, compared with just 11% for fathers outside Quebec.

On the other hand, fathers in Quebec claimed an average of 13 benefit weeks in 2005 and 7 in 2006, whereas fathers outside Quebec increased their time from 11 to 17 weeks. The 2006 finding in Quebec is clearly linked to the large increase in fathers participating in only the five-week paternity program. The reason for the increase in the weeks of leave for fathers outside Quebec is less obvious.

Some families take the potential income loss of the higher-earning spouse into account before deciding who takes the benefits. Fathers across Canada were 2.5 times more likely to claim benefits if they had a co-claiming spouse who earned the same or more than those with a co-claiming spouse who earned less. Finally, fathers outside Quebec were 3.4 times more likely to claim if their spouse did not claim, suggesting that when a family is at risk of not receiving any benefits (which is more often the case outside Quebec), fathers significantly increase their participation rate.

The evolving parental leave programs correspond with ongoing employment and social changes, including the growth in dual-earner couples, increasing expectations that men be involved with the care of children and an increasing awareness of quality of life beyond work issues (Moss and O'Brien 2006). Indeed, research in Canada has shown that spouses are increasingly sharing financial, household and child care responsibilities (Marshall 2006). One in five fathers taking paid parental leave is yet another indicator that dual-earner families are becoming dual-carer as well.

Notes

1. See Phipps 2006 for a more detailed history of Canada's maternity and parental leave programs.
2. In addition to its social objectives, the economic objectives of the PBP are to allow business to retain valuable, experienced employees, and make short-term investment for long-term economic gain (HRSDC 2005).
3. Based on the mother's reporting of spousal ineligibility (see *Data source and definitions*). The remainder of the paper focuses on eligible fathers.
4. In 2006, the overall take-up rate by all fathers, eligible or not, was 48% in Quebec and 10% outside Quebec.
5. Whether a mother received a top-up was tested in the regression models and found to be not significant. Information on employer top-up rates for fathers was not collected.
6. In 2006, among couples where at least one parent claimed benefits after the birth, 72% reported a drop in monthly income averaging $1,300. Only 27% of couples where neither parent claimed benefits reported an income reduction, but for those who did report a drop, the average was $1,700. Most non-claiming families (73%) do not experience an income drop because they either were not in the labour force prior to the birth, or were employed but ineligible for benefits and therefore less likely to take a break from working. However, some families take a break even if they are not entitled to benefits, making the time away from work even more costly.

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Work-life balance of shift workers

Cara Williams

Working 9 to 5 may be what many consider a normal full-time job. However, in an economy that often demands 24/7 activity, shift work remains common. At the same time, however, the labour force is aging and work-life balance is increasingly important to workers.

Working shifts can have negative health effects, and complicate the scheduling of family activities (Halpern 2005, Levin-Epstein 2006, Rosa and Colligan 1997, Costa 2003, Shields 2002). Additionally, because shift work is rarely restricted to weekdays, finding child care on weekends or making plans for holidays and social activities can be difficult. Conversely, for some, working shifts may reduce the need for child care and may ensure that a parent is available to get children ready for school in the morning, greet children after school or provide elder care—thereby reducing work-life conflict (Marshall 1998).

This article examines the prevalence and types of shift work among persons between the ages of 19 and 64 with full-time jobs. It also examines the hours spent on other activities like unpaid work or time with family members. Work-life balance, role overload and other indicators of well-being are examined for differences across shifts. Finally, multivariate analysis is used to assess the impact of work schedules and demographic and socioeconomic variables on work-life balance and role overload for men and women (see *Data source and definitions*).

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Rotating and irregular shifts most common

Shift work has changed through the years (see *Shifts over time*). Today, it comprises regular night and evening work, rotating and split shifts, casual/on-call jobs, and irregular shifts. In this article, working shift will refer to anything other than a regular daytime schedule.

In 2005, approximately 28% (4.1 million) of the 14.6 million employed Canadians worked something other than a regular day shift (Table 1); the vast majority (82%) worked full time (30 or more hours per week). While women made up approximately 37% of all full-time shift workers, almost 7 in 10 part-time shift workers were women. Because work-life conflict and role overload are more likely to affect full-time workers, this article will focus mainly on such individuals (see *Part-time workers*).

In 2005, rotating shifts and irregular schedules were the most common types of shift work, accounting for 2.3 million full-time workers (Table 2), even though these are considered among the most difficult shifts because the body cannot properly adjust to the sleep pattern changes, rotating child care is difficult to find and health effects can be profound (Costa

Table 1 Workers aged 19 to 64 by shift and work status

	All workers			Regular day			Shift workers		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	'000	%		'000	%		'000	%	
Total[1]	**14,640**	**55**	**45**	**10,547**	**54**	**46**	**4,068**	**57**	**43**
Full-time	13,139	58	42	9,774	57	43	3,347	63	37
Part-time	1,494	26	74	773	22	78	721	31	69

1. Includes unknown work schedules.
Source: Statistics Canada, General Social Survey, 2005.

Data source and definitions

Every year since 1985, the **General Social Survey** (GSS) has interviewed Canadians aged 15 and over in the 10 provinces on a wide range of issues. This paper examines GSS time-use data collected using a 24-hour time diary. In 2005 the sample size was 19,600. The target population of this study was persons aged 19 to 64 at the time of the survey who worked full time (30 hours per week or more). Students were excluded.

Shift work comprises
- regular evening schedules
- regular night schedules
- rotating shifts (those that change periodically from days to evenings or to nights)
- split shifts (two or more distinct periods each day)
- on call or casual (no prearranged schedules—for example, substitute teachers).
- irregular schedule (changes, but usually prearranged one week or more in advance—for example, pilots)
- Other, non-day schedules

Non-shift work is any regular daytime schedule.

Work-life balance is a self-perceived notion. The 2005 GSS determined satisfaction with work-life balance by asking "Are you satisfied or dissatisfied with the balance between your job and home life?"

The **role overload** variable was constructed using five indicators of overload. The questions used were:

1. When you need more time do you tend to cut back on your sleep?
2. At the end of the day, do you often feel that you have not accomplished what you had set out to do?
3. Do you worry that you don't spend enough time with your family or friends?
4. Do you feel that you're constantly under stress trying to accomplish more than you can handle?
5. Do you feel that you just don't have time for fun any more?

Respondents who answered yes to four or more questions were considered to suffer from role overload.

Average time spent on activities (time use) refers to the total time spent on a given activity divided by the population, and averaged over a seven-day week. The time spent by participants refers to only those who participated in that activity on diary day, and also averaged over seven days.

2003, Rosa and Colligan 1997). Some 385,000 full-time workers had regular evening shifts and approximately 270,000 had regular night shifts. On call/casual schedules accounted for just over 100,000 workers and split schedules about 130,000.

Table 2 Shift workers aged 19 to 64

	Both sexes	Men	Women
	'000	%	
Evening	523	49.4	50.6
Full-time	385	56.2	43.8
Night	309	60.3	39.7
Full-time	270	63.1	36.9
Rotating	1,345	54.5	45.5
Full-time	1,215	58.2	41.9
Split	160	52.6	47.4
Full-time	131	58.2	41.8
On call or casual	191	51.9	48.1
Full-time	102	67.6	32.4[E]
Irregular schedule	1,324	62.5	37.5
Full-time	1,052	70.1	29.9
Other	217	61.9	38.1
Full-time	192	64.7	35.3

Source: Statistics Canada, General Social Survey, 2005.

Occupation, industry and shift

Certain occupations are more commonly associated with shift work because of the nature of the jobs—for example, those occupations providing services 24 hours per day such as doctors, nurses and police officers. Additionally, some manufacturing jobs are also associated with shift work since some firms operate 24 hours per day. The 2005 General Social Survey confirmed this—for example, about 45% of those working in health occupations were shift workers, as were 66% in protective service occupations (police, security guards). Other occupations where shift work was relatively common were sales and service (40%) and those unique to primary industries (42%). Conversely, less than 10% of natural and applied sciences and 12% of business, finance and administrative jobs entailed shift work (Table 3).

Not surprisingly, just as certain occupations are more likely to be tied to shifts, so too are certain industries. This may be because they offer services at non-traditional work times or involve continuous production. Health care, accommodation and transport industries come to mind when thinking about shift work. Indeed, in 2005 more than 50% of full-time workers in the accommodation and food industry worked

Table 3 Full-time workers aged 19 to 64 by occupation, industry and shift

	Total workers	Regular day	Shift
Industry	'000	%	
Agriculture, forestry, fishing and hunting	230	65.3	34.7
Mining, oil and gas extraction	302	67.7	32.6
Utilities	121	89.7	10.3
Construction	888	84.1	15.9
Manufacturing	1,717	73.2	26.8
Trade	1,716	73.8	26.3
Transportation and warehousing	650	60.5	39.5
Finance and insurance	904	81.9	18.1
Professional, scientific and technical	1,079	86.8	13.2
Business, building and other support	448	63.9	36.1
Educational services	817	89.5	10.5
Health Care and Social Assistance	1,272	68.0	31.9
Information, culture and recreation	607	62.3	37.7
Accomodation and food	620	47.3	52.7
Other services	544	75.6	24.4
Public administration	831	80.7	19.3
Occupation			
Management	1,275	80.1	19.9
Business, finance and administrative	2,479	87.9	12.1
Natural and applied sciences	1,097	90.7	9.3
Health	690	54.7	45.3
Social science and education	990	84.9	15.1
Art, culture, recreation and sport	426	66.3	33.7
Sales and service	2,573	60.5	39.5
Trades, transport and equipment operators	1,900	72.2	27.8
Unique to primary	420	58.5	41.5
Unique to processing, manufacturing and utilities	886	63.3	36.7

Source: Statistics Canada, General Social Survey, 2005.

something other than a regular day schedule. About 4 in 10 workers in information, culture and recreation, as well as transportation and warehousing worked shifts. However, in some industries the vast majority of workers worked only a regular daytime schedule—for example, education, professional and scientific services, utilities and construction.

Demographics and shift

While women make up about 42% of all full-time workers, their share of shift work is slightly lower at about 37%, with only slight differences by type of shift (Chart A). For example, fewer women worked irregular shifts (25% vs. 35% for men), but they were more likely to work rotating shifts (41% vs. 34%) or evening shifts (14% vs. 10%).

Full-time shift workers were less likely to be married than their regular day counterparts. While about 7 in 10 day workers were married (with or without children), only about 6 in 10 shift workers were married (Table 4). Shift workers were more likely to be single—3 in 10 shift workers were single compared with 2 in 10 of those working a regular day schedule. This may be a result of shift workers being slightly younger than day workers. For example, the average age of a full-time shift worker was about 38, compared with 41 for full-time day workers.

Presence of children may lead individuals to work different shift patterns. However, the proportion of married and common-law couples with children under 15 was the same for shift workers and day workers. The only significant difference was for regular evening workers. Only about 22% of families with a parent working evening shifts had children compared with about 30% of day workers.

Reasons for working shifts

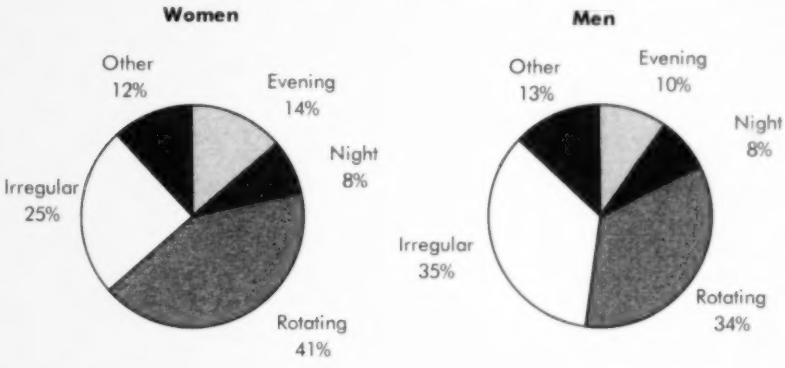
The reasons for working a certain shift can vary. The General Social Survey did not ask the question, but the American Current Population Survey did. The most common reason, cited by 55% of full-time shift workers, was the nature of the job. However, for some, shift work was preferred because of family or child care (8%), school (3%), better pay (7%), or personal preference (11%). For another 8%, it was the only type of job they could get (McMenamin 2007).

Satisfaction with work-life balance varies somewhat with shifts

Work-life balance is a self-defined, self-determined state reached by a person able to effectively manage multiple responsibilities at work, at home, and in the community. It supports physical, emotional and family health and does so without grief, stress or negative impact (HRSDC 2005).

In general, work-life balance can be difficult to achieve for full-time workers irrespective of work schedules, especially for those with

Chart A Among full-time shift workers, women were more likely than men to work rotating or evening shifts



Source: Statistics Canada, General Social Survey, 2005.

children. However, when work schedules are regular, or when workers have some control over their shifts, it is much easier to reduce the conflicts relating to family and work (Halpern 2005). Not surprisingly then, satisfaction with work-life balance varies somewhat by type of shift. Indeed, day workers were the most likely to be satisfied with their work-life balance, followed by regular evening workers—their schedules are regular and they can plan activities around work. Perhaps surprisingly, since their schedules change throughout a month, almost 73% of rotating shift workers were satisfied with their work-life balance. The least satisfied were those with split or irregular shifts (about 65% were satisfied), on call or casual (62%), or with other shifts (63%)—those workers with the least control of their work schedules (Table 5).

For families with children where both spouses work full time finding balance may be a challenge, which could be exacerbated by shift work. The GSS shows that about 75% of full-time day workers whose spouse also worked full time were satisfied with their work-life balance. When their spouse worked part time or was not in the labour force, about 77% were satisfied. Conversely, full-time shift workers were more likely to be satisfied with their work-life balance when their spouse worked full time (71%) than when their spouse worked part time or was not in the

Table 4 Family status of shift workers aged 19 to 64

		Shift							
	Regular day	Total	Evening	Night	Rotating	Split	On call or casual	Irregular	Other
Family type					%				
Married or common-law, no children	41.7	34.3*	36.1	19.3*	33.3*	38.5	41.6	36.4*	41.1
Married, with children under 15	29.6	27.5	22.1*	27.0	26.2	21.1E	32.1E	31.0	29.8
Separated, widowed, divorced, no children	6.0	7.1	6.3E	12.0E*	5.8	10.5	F	7.2	7.1E
Separated, widowed, divorced, children under 15	2.3	1.7*	F	F	1.5E*	F	F	1.8E	F
Single, no children	19.2	28.0*	32.3*	38.0*	31.6	22.4E	17.7E	23.0*	18.6E
Single, children under 15	1.1	1.5	F	F	1.8E	F	F	F	F

* significantly different from regular day schedule in the same category
Source: Statistics Canada, General Social Survey, 2005.

Table 5 Well-being of full-time shift workers aged 19 to 64

	Regular day	Shift							
		Total	Evening	Night	Rotating	Split	On call or casual	Irregular	Other
					%				
Work-life balance									
Satisfied	75.8	69.1*	73.0	70.0	72.5	65.0	61.7*	65.9*	62.7*
Dissatisfied	22.6	28.5*	23.1	27.2	25.4	32.6[E]	37.7[E]*	32.4*	32.8*
Role overload indicators									
Cut back on sleep	53.6	61.1*	70.0*	60.4	62.9*	61.0	60.1	58.1*	56.1
Not accomplishing all in a day	47.2	50.0	47.9	44.2	49.4	53.5	49.9	52.2	52.7
Not enough time with family and friends	50.8	55.7*	50.9	53.0	54.2	56.4	65.8*	58.1*	58.5
Often stressed when trying to accomplish more than can handle	40.7	43.4	45.3	35.8	41.4	49.8	47.3	46.7*	44.5
No time for fun	41.1	43.3	42.0	39.1	42.9	60.1*	52.4	41.5	49.6
Role overload									
Yes (four or more indicators)	27.2	30.9*	26.1	33.1	31.1*	35.5	38.6[E]	30.4	31.8
Other well-being indicators									
Workaholic	30.3	36.1*	36.9	27.1	33.2	42.2	41.4	43.1*	26.7
High life stress	26.6	26.8	21.0	25.2	24.1	35.6	22.0[E]	31.3*	30.1
Flexible work arrangements	40.3	35.0*	19.5*	11.9[E]*	21.0*	32.8	53.1*	59.9*	43.6

* significantly different from regular day schedule
Source: Statistics Canada, General Social Survey, 2005.

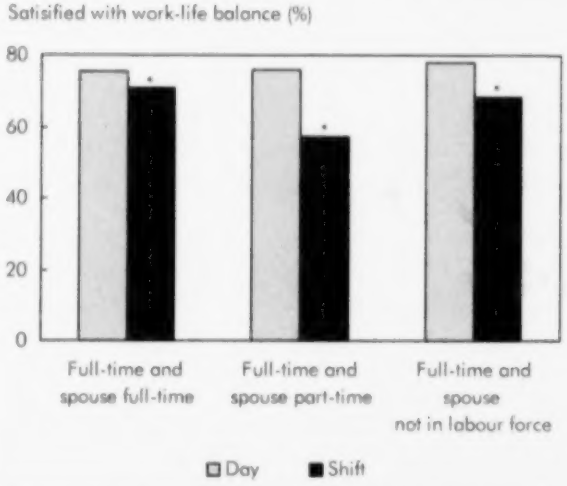
labour force. Indeed, satisfaction with work-life balance decreased to 57% for full-time shift workers when their spouse worked part time and was 68% when their spouse was not in the labour force (Chart B).

While the proportion of full-time workers unhappy with their work-life balance varied, the main reasons for dissatisfaction were similar. For example, not enough time for family and too much time spent on the job were the top reasons for all full-time workers regardless of their schedule. Other employment-related reasons and not enough time for other activities were also cited.

Role overload—too much to do and not enough time to do it—provides another measure of well-being. For example, often feeling that not enough is accomplished in the day, worrying about not spending enough time with family, constantly feeling under stress, trying to accomplish more than can be handled and cutting back on sleep are all indicators of role overload.

Indeed, cutting back on sleep in order to gain time is one way to try to find time to accomplish more in a day, but if done regularly it can have negative health

Chart B Work-life balance more elusive for shift-worker couples



* significantly different from regular day schedule
Source: Statistics Canada, General Social Survey, 2005.

Shifts over time

Between 1992 and 1998 the proportion of full-time workers who worked something other than a regular daytime schedule increased from 22% to 28%; it then slipped back to 25% in 2005. Over this same 14-year period, women's share among full-time workers increased from 39% to 42%, and their share of full-time shift work increased from 33% to 37%.

Rotating shifts and irregular shifts remained the most common. For example in 1992, one in two shift workers worked a rotating schedule; by 2005 two-thirds of full-time shift workers worked either a rotating or an irregular schedule (irregular shifts were not identified in 1992).

While it is not possible to look at the type of work schedule worked by spouses, it is possible to examine if spouses of full-time workers were in the labour force and whether they worked full or part time. If the spousal work patterns are different for regular day workers and shift workers, this may suggest that families, where at least one parent works something other than a daytime schedule, find ways to juggle their work schedules.

In 1998, about 5.5 million day workers had a spouse in the household. Most full-time day workers' spouses worked full time (60%). In the case of shift workers, just over 2 million full-time shift workers had a spouse—and about 58% of spouses worked full time, 16% worked part time and another 23% were not in the labour force. By 2005, full-time participation in the labour force grew for spouses of shift workers—about 1.9 million shift workers had a spouse in the household—and 64% of these spouses worked full time, 13% part time and 23% were not in the labour force.

The issue of balancing home and work is not new as workers face the struggle to juggle. Indeed, about 28% of all full-time workers in 1998 were dissatisfied with their work-life balance (not asked in 1992). Not surprisingly, shift workers had slightly higher levels of dissatisfaction than day workers (33% vs. 25%). In 2005 dissatisfaction with work-life balance had decreased slightly to 29% for shift workers and about 23% for full-time day workers, illustrating that although work-life balance has been an issue for some time, it does not appear to be increasing.

Full-time workers aged 19 to 64 by shift

	1992	1998	2005
		'000	
All workers	10,387	11,102	13,139
Men	6,323	6,695	7,644
Women	4,064	4,407	5,495
		%	
Regular day	77.9	72.3	74.4
Men	75.6	69.6	72.4
Women	81.3	76.5	77.2
Shift workers	22.2	27.6	25.5
Men	24.4	30.4	27.5
Women	18.7	23.5	22.7
Evening	14.7	10.5	11.5
Men	13.4	10.1	10.3
Women	17.2	11.2	13.6
Night	8.3	7.3	8.1
Men	8.4	7.4	8.1
Women	8.1[E]	7.1[E]	8.0
Rotating	51.7	35.1	36.3
Men	52.7	32.1	33.7
Women	49.7	41.2	40.8
Split	6.6	3.2	3.9
Men	6.4	3.1	3.6[E]
Women	6.8[E]	3.4[E]	4.4
On call/casual	..	3.6	3.0
Men	..	3.2	3.3
Women	..	4.2[E]	2.6[E]
Irregular	..	39.9	31.4
Men	..	43.7	35.1
Women	..	32.3	25.2
Other	18.8	F	5.7
Men	19.0	F	5.9
Women	18.3	F	5.5

Source: Statistics Canada, General Social Survey.

implications (Rosa and Colligan 1997). While more than 50% of all full-time workers cut back on sleep when they needed more time, the likelihood differed by work schedule. For example, just over half of all day workers cut back on sleep compared with 70% of evening shift workers and 63% of rotating shift workers. This may be particularly problematic for shift workers since they may already be having difficulty with sleep time.

Several other role overload indicators were significantly different for shift workers. Shift workers were more likely than their day worker counterparts to worry about not spending enough time with family or friends (56% vs. 51%). Those working irregular schedules seemed the most affected by role overload. They were significantly more likely to cut back on sleep, worry about not spending enough time with family and friends, and feel constantly stressed trying to accom-

plish more than they could handle. While experiencing one or two of the role overload components indicates some level of overload, four or more indicates more serious overload. About 27% of day workers and 31% of shift workers cited four or more indicators.

Work-life balance and role overload measures differed for men and women. While women in general had a higher incidence of work-life imbalance (27% vs. 19%) and role overload (32% vs. 23%), they showed no significant differences by shift type. Conversely, for men, shift workers were more likely to be dissatisfied with their work-life balance (29%) than those working a regular day schedule (19%). Men also differed between day and shift work in the incidence of role overload. While 28% of men working shifts had high role overload, only 23% of their day worker counterparts experienced high levels (Chart C).

General life stress is another measure of role overload, particularly if it results from feeling that there is not enough time in the day to do everything. In general terms, no difference in life stress was seen between regular day workers and shift workers—around 27% of both felt most days were quite a bit to extremely stressful. As to what caused this stress, about half cited lack of time as the trigger.

Flexibility of schedule

Previous research has shown that flexible work schedules lead to greater work-life balance and can offset work stress (Levin-Epstein 2006). The GSS allows for partial examination of work schedule flexibility, asking workers if they have flexible start and end times. While about 4 in 10 day workers had flexible times, some shifts were less likely to offer this flexibility. For example, only about 20% of evening shift workers and less than 12% of night shift workers had flexible work arrangements, but over 50% of those who worked irregular, on-call or casual shifts had flexible schedules.

Shift work and time spent with family

Previous research has found trade-offs between non-standard schedules and time spent with a spouse and children. For example, working at night is associated with spending more time with children—suggesting that night schedules are a way for parents to juggle child care (Golla and Vernon 2006). In 2005, night shift workers spent 4.4 hours per day with their children—about 30 minutes per day more than day work-

Part-time workers

In general, women were more likely than men to work part time. This holds true regardless of work schedule. For example, about 78% of part-time day workers were women and 69% of part-time shift workers were women.

Working part time may allow workers to achieve work-life balance and be less likely to suffer from role overload, as they may feel they have more time to devote to non-work activities. While full-time shift workers were less likely to be satisfied with their work-life balance than full-time day workers, this was not the case for part-time workers—85% were satisfied with their work-life balance.

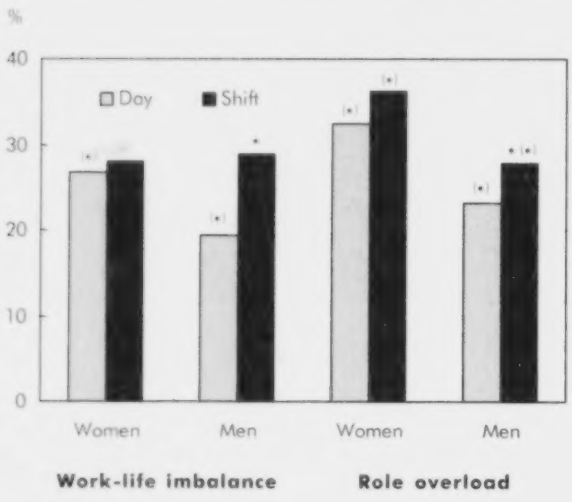
Perhaps because of the hours during which they work, part-time shift workers were significantly more likely to cut back on their sleep than day workers. However, working part time seems to smooth out other differences between day and shift workers, as no other significant differences in role overload or other well-being indicators were seen between part-time day and shift workers.

Part-time workers aged 19 to 64

	Regular day	Shift
Total	773,000	721,000
Sex		%
Men	22.4	30.7*
Women	77.6	69.3*
Family type		
Married or common-law, no children	37.3	31.9
Married, children under 15	31.2	32.4
Separated, widowed, divorced, no children	8.9	5.0[E]
Separated, widowed, divorced, children under 15	F	F
Single, no children	17.6	27.7
Single, children under 15	F	F
Work-life balance		
Satisfied	88.0	84.5
Dissatisfied	10.4	13.7
Role overload indicators		
Cut back on sleep	41.2	54.0*
Not accomplishing all in a day	47.7	49.0
Not enough time with family and friends	41.7	41.7
Often stressed when trying to accomplish more than can handle	32.7	36.5
No time for fun	28.8	31.5
Role overload		
Yes (four or more indicators)	18.9	22.8
Other well-being indicators		
Workaholic	15.7	16.3
High life stress	17.4	15.8
Flexible work arrangements	46.9	51.8

* significant difference from part-time day workers
Source: Statistics Canada, General Social Survey, 2005.

Chart C Regardless of schedule, women more likely to have work-life imbalance or role overload



* significantly different from regular day schedule
*' significantly different from opposite sex
Source: Statistics Canada, General Social Survey, 2005.

vious studies, some shift workers spent less time sleeping or had more difficulty sleeping than their day counterparts (Williams 2001, Rosa and Colligan 1997, Akerstedt 2003). For example, daytime workers averaged just over 8 hours of sleep, while regular night shift workers had about 45 minutes less.

Multivariate analysis

Logistic regression models were used to examine the relationship between satisfaction with work-life balance and role overload and several job characteristics, including shift work, and various demographic variables. Separate models were developed for women and men since factors contributing to their well-being have been shown to be different (MacDonald, Phipps and Lethbridge 2005).

Working shift was associated with a lower likelihood of avoiding role overload. That is, shift workers, both men and women, were about 15% less likely than day workers to have no role overload. Shifts were also a factor in the satisfaction with work-life balance model for men. Male shift workers were about 25% less likely than day workers to be satisfied with their work-life balance. However, shift work was not a significant predictor in the work-life balance model for women.

ers—and they spent 3.3 hours with their spouse—just over 1 hour less than day workers (Table 6). While working in the evening has been associated with less time spent with spouses and children (Golla and Vernon 2006), the GSS found only partial support for this. For example, evening shift workers spent an average of 4.2 hours per day with their children—about 18 minutes more than day workers—but they spent less time with their spouse than day workers (about 1 hour less).

Average time spent on unpaid work was relatively constant at about 96 minutes per day, with a few exceptions—night workers did slightly less at about 83 minutes and those working irregular shifts, about 92 minutes. Finally, as in pre-

Table 6 Time spent on activities by full-time shift workers aged 19 to 64

	Paid work	Unpaid work	Sleep	Time with children[1]	Time with spouse[2]	Time with household members[3]
				hours		
Day	6.8	1.6	8.1	3.9	4.4	4.6
Evening	6.4	1.8	8.1	4.2	3.4	3.8
Night	7.1	1.4	7.4	4.4	3.3	3.3
Rotating	6.8	1.7	7.9	3.9	4.1	3.9
Split	6.5	1.6	8.0	3.5	4.1	4.1
On call or casual	7.0	1.9	7.7	3.3	3.2	3.2
Irregular	7.2	1.5	7.9	3.1	4.2	4.5
Other	7.4	1.9	7.5	3.7	5.0	4.8

1. For those with children under 15.
2. For those with a spouse or partner.
3. For those not in a single-person household (includes time spent with children 15 and over living at home).
Source: Statistics Canada, General Social Survey, 2005.

Other factors were associated with satisfaction with work-life balance and role overload for both women and men. Indeed, those satisfied with their job had significantly higher odds of feeling satisfied with their work-life balance or not being overloaded (Table 7). For example, women very satisfied with their job had 5.7 times the odds of being satisfied with their work-life balance and 2.4 times the odds of not suffering from role overload. This supports research showing that a positive work environment and high levels of job satisfaction can help individuals feel less stressed and help them attain better balance (HRSDC 2008). Additionally, individuals with high levels of life stress had significantly lower odds of being satisfied with their work-life balance or being able to achieve role balance. For example, women working full time and having high levels of life stress had a 68% lower chance of being satisfied with their work-life balance (58% for men), and both women and men had a 76% lower likelihood of avoiding role overload.

Time spent on the job also affects work-life balance. For example, working 46 hours or more per week was associated with lower odds of being satisfied with the balance between work and home for both sexes. Long work hours were also associated with role overload. Indeed, for both men and women working long hours was associated with a lower likelihood of avoiding role overload. For example, women working 56 or more hours per week had a 72% lower likelihood of being satisfied with their work-life balance and a 56% lower likelihood of avoiding role overload (78% and 49% respectively for men). Additionally, those seeing themselves as workaholics also had lower odds of having struck a satisfactory work-life balance or avoiding role overload. This may be because workaholics perceive and allocate their time differently than other workers while at the same time feeling they are under pressure to accomplish more than is possible in a day (Keown 2007).

Flexibility of schedule was also important in avoiding role overload for both men and women. Those with flexible work schedules were 1.3 times more likely to avoid role overload. For women, having a flexible schedule was also associated with finding satisfaction with work-life balance. This may be because a flexible work schedule allows for appointments, children's school events, unforeseen child or elder care issues, or other events that may arise.

Satisfaction with work-life balance and being able to avoid role overload are also related to demographic characteristics. Even after accounting for other confounding factors, age seems to play a role for both measures. For example, individuals between 35 and 54 had lower odds than those between 55 and 64 of being satisfied with their work-life balance or having avoided role overload. This may be because younger individuals are in their prime working years and more concerned with developing careers, while older individuals are more established both at home (older children) and at work.

The well-being models were similar for men and women, except for two striking differences. For women, family type was a significant predictor of both work-life balance and role overload; for men, this was not the case. For women, having a spouse and children or being a lone parent was associated with lower odds of being satisfied with work-life balance or avoiding role overload; for men, family type was significant only in the role overload model. These differences may reflect women's continuing role as primary caregivers of children and managers of households.

The other differences between men and women were in the industry and occupation variables. While industry had no effect for women on either measure, this was not the case for men. For men, manufacturing, trade, and transportation and warehousing were associated with a lower likelihood of being satisfied with their work-life balance; manufacturing, and education and health, were associated with being less likely to avoid role overload.

Some occupations—social sciences, sales and culture; and trades and those unique to primary industries or manufacturing—seemed to offer some protection to both men and women with respect to role overload compared with managerial, business, finance or scientific jobs.

For those with high incomes, the purchase of time, through restaurant meals, cleaning services or other services may be one way to reduce the time burden and thereby find balance or reduce overload. While income did not have a significant impact for women on the likelihood of being satisfied with work-life balance, lower incomes were associated with a lower likelihood of being able to avoid role overload for both men and women.

Summary

In 2005, over 3 million full-time workers worked something other than a regular daytime schedule, with two-thirds of them working a rotating or irregular shift. Just as women's share of full-time work has increased in the labour market in general, so too has their share of full-time shift work. In 2005, about 37% of full-time shift workers were women, up from about 33% in 1992.

Some occupations are more commonly associated with shift work. Almost half of workers in health-related occupations and two-thirds of those in protective services worked shifts. Not surprisingly, those in sales and service-related occupations were also more likely to work shifts.

Time-use patterns are slightly different among shift workers. Virtually all shift workers spent less time with their spouse than those who worked a regular day schedule. But certain types of shifts had little in common with daytime work in terms of time spent on activities. For example, night shift workers spent the least time on unpaid work or sleeping but spent more time with their children than other shift workers.

Work-life balance and role overload are measures of well-being. In 2005, shift workers were significantly more likely to be dissatisfied with their work-life balance than regular day workers. They were also more likely to suffer from role overload. Indeed, those working on call or other shifts had significantly higher levels of dissatisfaction with work-life balance than day workers (23%). Interestingly, all shift workers were more likely to cut back on sleep when they

Table 7 Multivariate models of work-life balance and role overload

	Satisfied with work-life balance		No role overload	
	Women	Men	Women	Men
	odds ratio			
Work schedule				
Regular day (ref*)	1.00	1.00	1.00	1.00
Shift work	n.s.	0.75*	0.82*	0.89*
Age				
19 to 34	n.s.	0.55*	0.68*	0.61*
35 to 54	0.72*	0.65*	0.76*	0.66*
55 to 64 (ref*)	1.00	1.00	1.00	1.00
Family type				
Couple, no children (ref*)	1.00	1.00	1.00	1.00
Couple, children	0.67*	n.s.	0.72*	0.80*
Lone parent	0.64*	n.s.	0.61*	0.56*
Other family	0.79*	n.s.	1.47*	1.28*
Education				
University degree or above (ref*)	1.00	1.00	1.00	1.00
College diploma or certificate	n.s.	n.s.	n.s.	0.85*
Some postsecondary	n.s.	n.s.	n.s.	n.s.
High school or less	1.72*	1.44*	n.s.	n.s.
Industry				
Primary and utility	n.s.	n.s.	n.s.	n.s.
Construction	n.s.	n.s.	n.s.	n.s.
Manufacturing	n.s.	0.74*	n.s.	0.81*
Trade	n.s.	0.69*	n.s.	n.s.
Transportation and warehousing	n.s.	0.66*	n.s.	n.s.
Financial, professional, business (ref*)	1.00	1.00	1.00	1.00
Education and health	n.s.	n.s.	n.s.	0.73*
Accommodation and food services	n.s.	n.s.	n.s.	n.s.
Public administration	n.s.	n.s.	n.s.	n.s.
Information, culture and recreation	n.s.	n.s.	n.s.	n.s.
Occupation				
Managers, business, finance, sciences (ref*)	1.00	1.00	1.00	1.00
Health	n.s.	n.s.	n.s.	n.s.
Social sciences, sales, culture	n.s.	n.s.	1.25*	1.30*
Trades, primary, processing, manufacturing	n.s.	1.40*	1.50*	1.47*
Usual Weekly hours				
Less than 39 (ref*)	1.00	1.00	1.00	1.00
39 to 45	0.83*	n.s.	0.76*	0.87*
46 to 55	0.52*	0.45*	0.66*	0.64*
56 or more	0.28*	0.22*	0.44*	0.51*
Flexible start and end time				
Yes	1.30*	n.s.	1.30*	1.30*
No (ref*)	1.00	1.00	1.00	1.00
Job satisfaction				
Unsatisfied with job (ref*)	1.00	1.00	1.00	1.00
Relatively satisfied	2.34*	2.20*	1.49*	1.38*
Very satisfied	5.65*	6.90*	2.37*	2.47*
Level of stress				
No stress (ref*)	1.00	1.00	1.00	1.00
Mid level of stress	0.73*	0.73*	0.57*	0.54*
High stress	0.32*	0.42*	0.24*	0.24*

Table 7 Multivariate models of work-life balance and role overload (concluded)

	Satisfied with work-life balance		No role overload	
	Women	Men	Women	Men
	odds ratio			
Workaholic				
Yes	0.57*	0.61*	0.38*	0.42*
No (ref*)	1.00	1.00	1.00	1.00
Elder care				
Yes	n.s.	n.s.	n.s.	n.s.
No (ref*)	1.00	1.00	1.00	1.00
Income				
Under $10,000	n.s.	n.s.	n.s.	n.s.
$10,000 to $29,999	n.s.	n.s.	0.63*	0.65*
$30,000 to $49,999	n.s.	1.40*	0.77*	0.73*
$50,000 to $79,999	n.s.	n.s.	n.s.	0.85*
$80,000 to $99,999	n.s.	n.s.	n.s.	n.s.
$100,000 and over (ref*)	1.00	1.00	1.00	1.00

* significantly different from the reference group (ref*) at 0.05 level or better
n.s. not significant
Source: Statistics Canada, General Social Survey, 2005.

needed more time and were more likely to worry about not spending enough time with family.

Logistic regression models compared the factors associated with work-life balance and role overload for men and women working full time. For men, working shift was associated with lower odds of being satisfied with their work-life balance, and shift work was a significant predictor of role overload for both women and men, indicating that because of the times they work, shift workers are more likely to feel they have too much to do and not enough time.

For women, family type was a significant factor in both satisfaction with work-life balance and avoidance of role overload. Conversely for men, industry was a factor, but family type had little bearing. However, certain factors were significant for both men and women. Indeed, regardless of work schedule or family type, being satisfied with one's job was associated with higher odds of being satisfied with work-life balance and being able to avoid role overload. Conversely, high general life stress, working 46 hours or more per week, or being a workaholic all lowered the odds of being satisfied with work-life balance and avoiding role overload. This, in short, suggests that satisfaction with work-life balance and role overload are related not only to workers' schedules but also to a complex interaction of hours worked, self-perception and general feelings of well-being.

Perspectives

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Perspectives on Labour and Income

The quarterly for labour market and income information

Remittances by recent immigrants

René Houle and Grant Schellenberg

Remittances—the money immigrants send to family members in their country of origin—have a long tradition. But with today's global networks of financial institutions and telecommunications technologies, the transmission of funds worldwide now takes place at a pace and volume unimaginable earlier.

Considerable work is underway both nationally and internationally to measure remittance flows. The World Bank estimates flows to developing countries at US$167 billion in 2005 (World Bank 2006). This is likely an underestimate as some remittances through formal channels, such as post offices or exchange bureaus, and remittances below a minimum threshold, are often not recorded in official estimates. Furthermore, remittances through informal channels, like family or friends, generally go unrecorded. Such unrecorded remittances could add 50% or more to the total.

Remittances represent an important revenue source for developing countries. In absolute terms, India (US$21.7 billion), China (US$21.4 billion), and Mexico (US$18.1 billion) top the list (World Bank 2006). In proportional terms, the importance of remittances to many smaller countries is evident. For example, remittances account for about 20% to 30% of GDP in Tonga, Moldova, Lesotho, Haiti, Bosnia and Herzegovina, and Jordan, and for about 10% to 19% in several others, such as Jamaica, El Salvador, the Philippines, the Dominican Republic, Lebanon and Nepal.

The importance of remittances can also be related to national industries. For example, remittances to Mexico "...are more than the country's total tourism revenues, more than two-thirds of the value of petroleum exports, and about 180% of the country's agricultural exports." (Inter-American Development Bank 2004). More broadly, in 28 countries, remittances are "...larger than the earnings from the most important commodity export." (World Bank 2006) Remittances often also exceed overseas development aid and foreign direct investment.

Recorded estimates of remittance flows to developing countries show a marked increase in recent years, rising by 73% between 2001 and 2005. This trend has been evident across a wide range of nations (World Bank 2006). Many factors are likely at play, including improvements in data collection, a shift from informal to formal networks and developments within the remittance industry (World Bank 2006; Orozco 2006).

While a great deal of Canadian research continues to focus on the labour market and income characteristics of recent immigrants, little attention has been paid to their expenditures, of which remittances are one component.[1] Their preferences or obligations to send money to family members abroad may have implications for other aspects of settlement, such as housing or employment decisions. And while high rates of low income underscore the financial constraints often faced by new Canadians, such figures do not take into account any income used to support family members abroad.

From a macroeconomic perspective, household data on remittances contribute to understanding international financial flows and play a role in the development of concepts and measures for systems of national accounts and balance of payments. Internationally, agencies such as the International Monetary Fund, World Bank, and Inter-American Development Bank (IADB) are interested in the institutional characteristics of bilateral remittance corridors. Indeed, "...efforts are underway to induce users [remittance senders] to shift from informal to formal systems in order to increase the transparency of remittance flows and enhance their contribution to development in the

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Table 1 Remitters and their remittances

	6 to 24 months after arrival		25 to 48 months after arrival	
	Remitters	Average	Remitters	Average
	%	$	%	$
Total	**23**	**2,500**	**29**	**2,900**
Region of birth				
Southeast Asia	52	2,000	56	2,400
Caribbean, Guyana	47	1,400	54	1,600
Sub-Saharan Africa	37	2,400	42	2,500
Eastern Europe	32	1,800	41	2,100
South Asia	23	3,600	28	3,700
Central, South America	23	2,000	25	2,000
East Asia	13	2,900	20	3,900
West Asia, Middle East, North Africa	13	2,000	19	2,500
North America, West Europe, Oceania	11	3,200	11	3,600
GDP/capita, country of birth				
Less than $2,000	31	1,900	35	2,200
$2,000 to $3,999	31	2,700	37	3,000
$4,000 to $5,999	20	2,500	25	3,300
$6,000 to $7,999	19	1,600	31	2,200
$8,000 to $14,999	26	2,400	28	1,900
$15,000 and over	8	3,100	11	3,900

Note: Averages are for those who remitted and have not been adjusted for inflation.
Source: Statistics Canada and Citizenship and Immigration Canada, Longitudinal Survey of Immigrants to Canada, 2000/2001 cohort.

recipient countries." (Hernández-Coss 2006) The Multilateral Investment Fund of the IADB identifies better documentation of the importance of remittances, reduced transaction costs and improved leveraging of the development impact of remittances as key objectives (Orozco 2002). Information on the entire remittance process, from senders to recipients, is needed to build a complete picture of this complex phenomenon.

Despite the ongoing interest, research on the characteristics of remittance senders in Canada remains quite limited, largely because of the absence of data. More broadly, studies are often focused on immigrants from only one or two source countries. This study uses the Longitudinal Survey of Immigrants to Canada (LSIC) to document the prevalence of remitting and the amounts remitted by immigrants from a wide range of countries (see *Data source and methodology*). The incidence of remitting by the 2000/2001 landing cohort ranged from less than 10% to about 60%; the average amounts ranged from about $500 to almost $3,000 per year. Financial and family characteristics were consistently significant among immigrants from all regions, but other factors, such as sex and education, were significant for only some.

Descriptive results

A significant minority of immigrants from the 2000/2001 landing cohort remitted funds to family or friends abroad during their first four years in Canada. In the 6 to 24 months after landing, 23% of immigrants remitted and 25 to 48 months after landing 29% did so (Table 1). Among those who remitted, the average amount was $2,500 in the first reference period and $2,900 in the second.[4] Assuming the total to be evenly distributed over the reference period, annual remittances during the third and fourth years in Canada were $1,450, which is comparable to estimates that Haitian and Jamaican immigrants send approximately $1,000 to $1,400 home per year (Simmons et al. 2005).

The extent to which remittance behaviour varies by region of birth is evident. Over half of immigrants from Southeast Asia and the Caribbean and Guyana sent remittances home 25 to 48 months after landing, compared with about 40% of those from sub-Saharan Africa and Eastern Europe. About one-quarter of the respondents from South Asia and Central and South America sent remittances during this period, while about one-fifth of those from East Asia or West Asia, the Middle East and North Africa did so. The average amounts sent also differed. Immigrants from East Asia sent $3,900, while immigrants from the Caribbean and Guyana sent $1,600.

The incidence of remitting was highest among those from countries with lower GDP per capita. Over the 25 to 48 months after landing, around 36% of immigrants from countries with GDP per capita under $4,000 remitted, compared with only 11% from countries with GDP per capita of $15,000 or more. One interpretation is that because their families are in greater need of financial support, immigrants from poorer countries are more likely to remit.

That being said, the relationship between GDP per capita and the incidence of remitting is fairly flat between these extremes, ranging from about 25% to 30%. Conditional on remitting, a consistent relationship between GDP per capita and average amounts was not evident.

By country of birth, variability is particularly striking (Chart A). Some 60% of immigrants from the Philippines and Haiti remitted two to four years after landing, while about 40% to 50% of immigrants from Jamaica, Nigeria, Romania, Guyana and Ukraine did so.[5] Quite clearly, remittances are sent by many new immigrants from a diverse set of world regions. France, the United Kingdom and South Korea—all industrialized—are at the bottom of the distribution.

As for the average amounts sent, remitters from 11 of 24 countries sent between $1,700 and $2,200, and remitters from another 7 countries sent between $2,700 and $3,700 (Chart B). While less than 20% of immigrants from the United States sent money home, the average amount was quite high—just under $6,000. (However, the confidence intervals around many of the estimates are quite large.)

In terms of admission categories, about 30% of immigrants in all three categories remitted 25 to 48 months after landing (Table 2). Among those who did remit, economic immigrants sent somewhat larger amounts than refugees ($3,000 versus $1,900). However, measures of central tendencies, like averages, demonstrate little about the range of values. Just over one-quarter of immigrants who remitted 25 to 48 months after landing sent less than $500. This was the case for 21% of economic immigrants compared with 45% of refugees. About one-half of immigrants in all categories sent between $500 and $2,500. And at the high end of the distribution, 12% of the economic immigrants who remitted sent $5,000 or more compared with 5% of refugees.

An important issue is the extent to which remittances impose financial hardships on newly arrived immigrants. Several studies have documented the relatively high and rising rates of low income among recent immigrants (Heisz and McLeod 2004; Picot et al. 2007). While measures of low income take the number of family members residing together into account, they do not take the sharing of income with members residing elsewhere into account. This applies to all families regardless of immigration status. However, given the relatively high rates of low income among recent immigrants and with almost one-third of them

Table 2 Remittances 25 to 48 months after landing

		Immigrant category		
	Total	Economic	Family-class	Refugee
Remitters (%)	29	29	29	31
Average amount ($)	2,900	3,000	2,700	1,900
		%		
Remitters sending	**100**	**100**	**100**	**100**
Less than $500	26	21	33	45
$500 to $999	21	22	19	17
$1,000 to $2,499	24	26	22	19
$2,500 to $4,999	18	19	16	14
$5,000 or more	11	12	10	5

Source: Statistics Canada and Citizenship and Immigration Canada, Longitudinal Survey of Immigrants to Canada, 2000/2001 cohort.

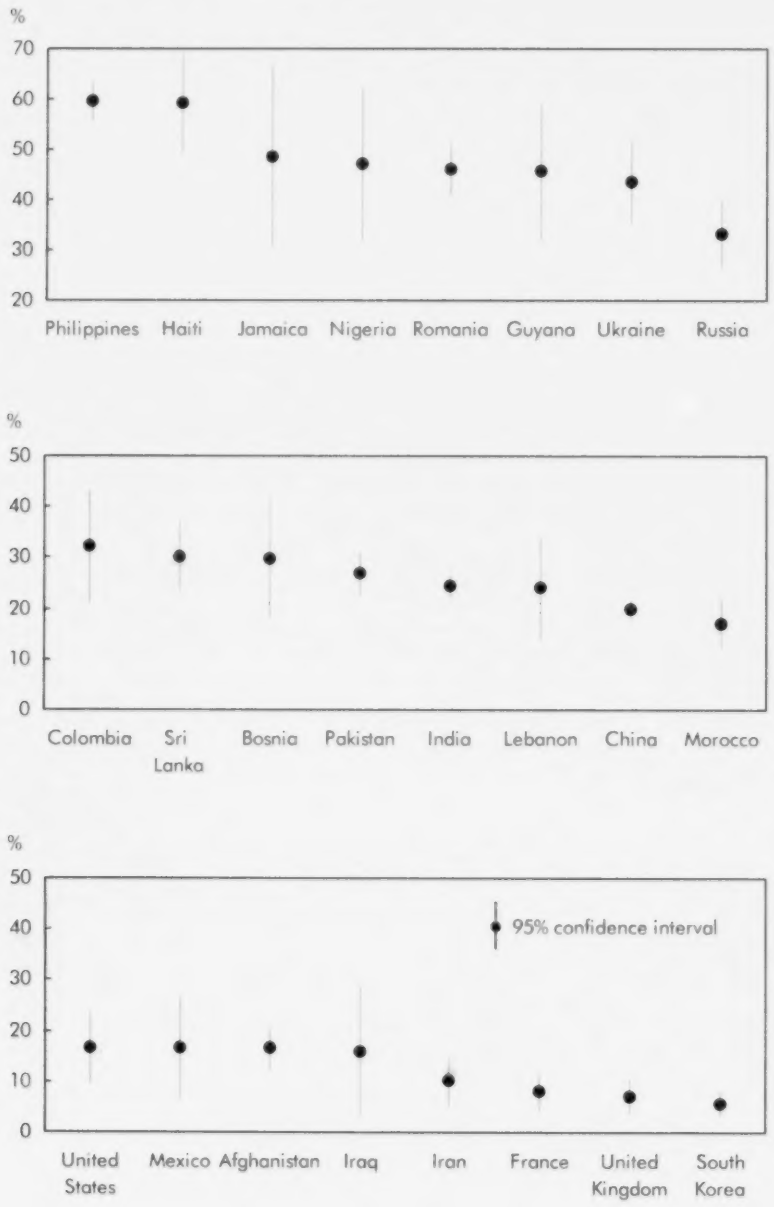
Data source and methodology

The **Longitudinal Survey of Immigrants to Canada** (LSIC), conducted jointly by Statistics Canada and Citizenship and Immigration Canada (CIC), included all immigrants who arrived between October 1, 2000 and September 30, 2001; were age 15 or older on landing; and had applied through the Canadian Mission abroad. The sampling frame was an administrative database maintained by the CIC. The LSIC used two-stage stratified sampling. The first stage selected immigrating units (IUs) using probability proportional to size and the second randomly selected one member within each IU. Only the selected member was followed throughout the survey.

Respondents were first interviewed about six months after arrival and then again after two and four years. During the first interview they were asked if, since arriving, they had sent money outside Canada to relatives or friends—they were not asked the amount. During the second and third interviews, respondents were also asked the amounts.

The multivariate analysis includes a logistic regression on the likelihood of remitting and an ordinary least squares regression on the natural logarithm of the amount remitted. Coefficients from the logistic regressions have been converted into predicted probabilities for ease of interpretation.[7] Coefficients from the natural logarithm of the amount remitted approximate percentage differences and are discussed in these terms for ease of presentation. All models are calculated using bootstrap weights to correct variance estimates for survey design (a technique called design-based variance estimation).[8]

Chart A The proportion of immigrants making remittances varied considerably by country of origin



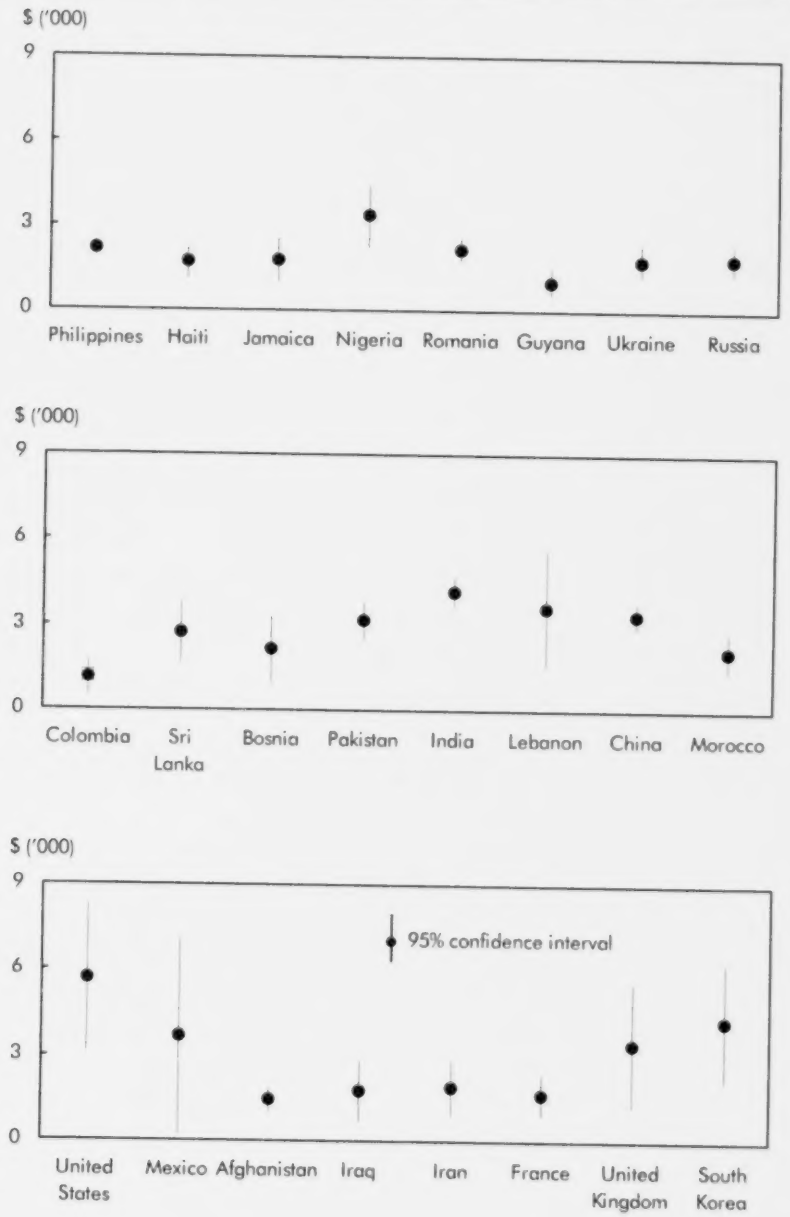
Note: Average of the average amounts remitted (conditional on remitting) at two years and four years after landing.
Source: Statistics Canada and Citizenship and Immigration Canada, Longitudinal Survey of Immigrants to Canada, 2000/2001 cohort.

sending money abroad, their financial resources may be stretched further than income figures alone would suggest.

Caution is warranted when addressing this issue. Because remittance behaviour is measured using individuals rather than families or households, estimates of amounts sent abroad are likely conservative. Furthermore, remittances as a share of income can be computed using total personal income or total economic family income as the denominator. Personal income yields a higher percentage, but does not take any sharing of financial resources into account. Family income yields a lower percentage, but mixes units of analysis (personal remittances and family income). Results from both approaches represent conservative estimates of the lower and upper bounds of remittances as a share of income (Table 3). Remittances accounted for 7.5% of the personal income of remitters and 3.4% of family income, on an average annualized basis, during remitters' second year in Canada. Two years later, remittances accounted for 5.9% and 2.9%.[6]

When all immigrants are considered, regardless of whether they remitted, remittances accounted for 3.7% and 3.4% of aggregate personal income, and 1.6% and 1.3% of aggregate family income, two and four years after arrival. From this perspective, remittances account for a fairly small share of the income of newly arrived immigrants. Nonetheless, remittances may still represent a considerable expenditure for some families—take refugees for example. The average family income of refugees who remitted during their fourth year in Canada was $36,100. By comparison, the 2004 before-tax

Chart B Average remittances were less than $4,000 for three-quarters of 24 countries of origin



Note: Average of the average amounts remitted (conditional on remitting) at two years and four years after landing.
Source: Statistics Canada and Citizenship and Immigration Canada, Longitudinal Survey of Immigrants to Canada, 2000/2001 cohort.

low-income cut-off (LICO) was just over $31,000 for a three-person family and just under $38,000 for a four-person family residing in a large urban centre. (The LICO is an income threshold below which a family will likely devote a larger share of its income than the average family on the basic necessities of food, shelter and clothing.) For refugees who remitted, the average of almost $1,000 came from a fairly modest family income.

Multivariate results, pooled model

Descriptive statistics demonstrate the magnitude of differences in remittance behaviour, which partly reflect the characteristics and experiences of individuals from different countries. The significance of the various factors was examined via logistic regression and based on ordinary least squares regression.

Demographic characteristics

A modest correlation could be seen between sex and remittance behaviour, with predicted probabilities of remitting (after taking other characteristics into account) of 26% for men and 23% for women (Table 4). Among those remitting, women sent approximately 12% less than men. Age is also important—the predicted probability was highest among immigrants aged 25 to 44 (about 30%) and lower among those in younger and older age groups (less than 20%). Individuals 25 to 34 who remitted sent larger amounts than those under 25 or 55 and older.

Financial capacity

Consistent with the literature, strong correlations were found between remittance behaviour and financial capacity. For example, the

Table 3 Annual incomes of remitters

	Total	Immigrant category		
		Economic	Family-class	Refugee
2nd year after arrival				
Personal income ($)	22,200	27,200	14,100	12,500
Remittance as share of income (%)	7.5	6.7	10.4	8.1
Family income ($)	48,700	51,000	47,400	28,300
Remittance as share of income (%)	3.4	3.5	3.1	3.6
4th year after arrival				
Personal income ($)	28,200	33,600	17,500	16,400
Remittance as share of income (%)	5.9	5.4	8.4	6.1
Family income ($)	57,200	61,100	52,600	36,100
Remittance as share of income (%)	2.9	3.0	2.8	2.8

Note: Based on those making remittances.
Source: Statistics Canada and Citizenship and Immigration Canada, Longitudinal Survey of Immigrants to Canada, 2000/2001 cohort.

predicted probability of remitting rose monotonically with family income, from 10% among immigrants with family incomes under $10,000 to 36% among those with incomes of $70,000 or more. The amounts sent also increased monotonically. The amount sent by remitters in families with incomes of $70,000 or more was approximately 45% higher than the amount for those with incomes of $25,000 to $44,999.

Considering savings abroad, immigrants who had $5,000 or more were significantly less likely to remit (about 20%) than those with no savings abroad (26%). One interpretation is that immigrants with savings abroad come from more affluent families, and hence were less likely to remit. Among remitters, the amounts were not correlated with savings.

Consistent with other studies, immigrants employed full time were significantly more likely to remit than those employed part time or not employed (predicted probabilities of 29%, 25% and 21% respectively). However, employment status was not correlated with the amount sent.

The probability of remitting was not significantly associated with immigrants' level of education upon arrival. However, the amounts sent by those with no postsecondary education were 20% to 25% less than the amounts sent by those with a university degree.

Finally, place of residence was positively correlated with both incidence of remitting and amounts. The predicted probability of remitting ranged from 21% among immigrants in Montréal to 34% in Calgary and Edmonton. Through the 2000s, the labour markets in Calgary and Edmonton have been especially robust, fuelled by oil and gas and high world commodity prices. In 2004, for example, the unemployment rates in Edmonton and Calgary for men aged 25 to 44 (3.7% and 4.4% respectively) were about half the rate in Montréal (8.7%). The greater incidence of remitting among immigrants in these cities likely reflects favourable labour market circumstances and perhaps positive expectations about future earnings. Among immigrants who remitted, those in Calgary, Edmonton and Vancouver sent about 16% more than those in Toronto.

Obligations to family

Although LSIC information on family abroad is limited, the available evidence is consistent with the view that remittance behaviour is shaped by family characteristics. The likelihood of remitting and the amounts were negatively correlated with the number of minor children in the household. The predicted probability of remitting was 18% for households with three or more children, compared with 27% for those with no children. Furthermore, amounts sent by remitters with one or two children were 17% to 19% less, and with three or more children 36% less, than by those with no children.

The importance of family characteristics was also evident in intentions to sponsor family members to come to Canada. Immigrants already sponsoring or intending to sponsor a spouse or child were more likely to remit than those with no sponsorship activities or intentions (predicted probabilities of 36% and 23% respectively). Those sponsoring a child or parent sent approximately 23% more than those with no sponsorships. The same patterns were evident among immigrants sponsoring a parent or grandparent. Their predicted probability of remitting was 30% and they sent approximately 12% more. These findings are consistent with other studies reporting that immigrants remitting to support children and spouses tend to send more than those helping other family members (Stanwix and Connell 1995).

Table 4 Regression results on pooled sample

	Logistic regression coefficients on probability of remitting	Predicted probability of remitting[1]	Ordinary least squares coefficients on natural log of remittance
		%	
Sex			
Men (ref*)	...	26	...
Women	-0.170*	23	-0.117*
Age			
15 to 24	-0.718*	17	-0.200*
25 to 34 (ref*)	...	30	...
35 to 44	-0.093	28	-0.073
45 to 54	-0.607*	19	-0.017
55 or older	-0.879*	15	-0.277*
Family income			
Less than $10,000	-1.110*	10	-0.453*
$10,000 to $24,999	-0.605*	16	-0.316*
$25,000 to $44,999 (ref*)	...	26	...
$45,000 to $69,999	0.235*	31	0.220*
$70,000 or more	0.471*	36	0.445*
Savings abroad			
No saving abroad (ref*)	...	26	...
Less than $5,000	-0.109	24	0.014
$5,000 to $24,999	-0.477*	18	0.135
$25,000 or more	-0.318	20	0.111
Missing	-0.237	21	-0.030
Person most knowledgeable on income			
Respondent (ref*)	...	26	...
Other	-0.280*	21	-0.073
Employment status			
Employed full time (ref*)	...	29	...
Employed part time	-0.239*	25	-0.099
Not employed	-0.465*	21	-0.065
Education at landing			
Less than high school	0.131	27	-0.255*
High school	0.035	25	-0.201*
Completed postsecondary	-0.065	23	-0.078
University degree (ref*)	...	24	...
Place of residence			
Toronto (ref*)	...	23	...
Montreal	-0.143	21	0.099
Vancouver	0.167*	26	0.159*
Calgary, Edmonton	0.553*	34	0.158*
Other	0.204*	27	0.036
Children in household			
No children (ref*)	...	27	...
One	-0.153*	24	-0.169*
Two	-0.404*	20	-0.187*
Three or more	-0.512*	18	-0.361*
Sponsorship			
None (ref*)	...	23	...
Spouse or child	0.598*	36	0.231*
Parent or grandparent	0.322*	30	0.117*

Immigrant class

Although descriptive statistics indicated little difference in the incidence of remitting by immigration category, the picture changed somewhat with other characteristics taken into account. More specifically, the predicted probability of remitting was somewhat higher among family class immigrants (27%) than among economic immigrants (23%). Similarly, the predicted probability of remitting was 28% among refugees (although this estimate was just over the 0.1 level of confidence). The immigration category was not correlated with amounts sent.

Organizational involvement

Of the two organizational participation/involvement variables in the model, one was significant. Specifically, those belonging to a religious organization were more likely to remit than other immigrants (predicted probabilities of 28% and 24% respectively). Organizational involvement was not correlated with amounts remitted.

Region of birth

Dummy variables identifying immigrants from nine regions captured interregional differences in remittance behaviours net of other characteristics. Again, the differences were large. The predicted probability of remitting was highest among immigrants from Southeast Asia and the Caribbean and Guyana (52%), followed by Eastern Europe and sub-Saharan Africa (35% and 32%). The likelihood of remitting was lowest for those from West Asia, the Middle East and North Africa (16%), North America, Western Europe and Oceania (17%) and East Asia (18%). Among remitters, those from East Asia sent the largest amounts.

Table 4 Regression results on pooled sample (concluded)

	Logistic regression coefficients on probability of remitting	Predicted probability of remitting[1]	Ordinary least squares coefficients on natural log of remittance
		%	
Immigrant category			
Family class	0.174*	27	-0.033
Economic (ref*)	...	23	...
Refugee	0.249	28	-0.135
Member of religious organization			
No (ref*)	...	24	...
Yes	0.230	28	-0.046
Member of ethnic/immigrant organization			
No (ref*)	...	25	...
Yes	0.145	27	-0.002
Region of birth			
North America, Western Europe, Oceania	-0.067	17	-0.554*
Eastern Europe	0.860*	35	-0.629*
Caribbean, Guyana	1.586*	52	-0.789*
Central, South America	0.362*	24	-0.693*
Sub-Saharan Africa	0.760*	32	-0.487*
West Asia, Middle East, North Africa	-0.148	16	-0.461*
East Asia (ref*)	...	18	...
Southeast Asia	1.581*	52	-0.770*
South Asia	0.283	23	-0.139
GDP/capita, country of birth			
Less than $2,000	0.566*	38	-0.169
$2,000 to $3,999 (ref*)	...	26	...
$4,000 to $5,999	0.127	28	-0.215*
$6,000 to $7,999	0.143	29	-0.216*
$8,000 to $14,999	-0.466*	18	-0.283*
$15,000 or more	-0.957*	12	-0.133
Constant	-0.782*	...	8.089*

* statistically significant or significantly different from a reference group (ref) at 0.05 or better
1. Predicted probability of remitting with other co-variates set to their mean values.
Source: Statistics Canada and Citizenship and Immigration Canada, Longitudinal Survey of Immigrants to Canada, 2000/2001 cohort.

Finally, remittance behaviour was significantly associated with GDP per capita in the country of birth. The predicted probability of remitting was highest for immigrants from countries with GDP per capita below $2,000 (38%) and lowest for countries with GDP per capita of $8,000 to $14,999 (18%) or $15,000 or more (12%).

Multivariate results, regional comparisons

Given the considerable variation in the remittance behaviour of immigrants from different regions, one question that arises is whether the factors associated with remitting are universal or regional. To address this, separate regression models were estimated for immigrants from nine regions. Because three of these models were based on samples of less than 800, the likelihood of regression coefficients being statistically significant was reduced. Hence, these models used a simplified specification—some co-variates were excluded because they were correlated with region (e.g. immigrant category), while others, like number of children, were re-grouped into fewer categories.

Several characteristics were consistently correlated with remittance behaviour (Tables 5 and 6). This was most evident for financial capacity. The likelihood of remitting and the amount were both positively and significantly correlated with family income for seven of the nine regions.[7] Employment status was correlated with the likelihood of remitting for six regions, but the amount for only two. Finally, savings abroad were negatively correlated with the likelihood of remitting for five regions, but not correlated with the amount sent for any.

The correlations between presence of children and the likelihood of remitting and the amount were significant for four regions, and approached significance for another. The positive correlation between sponsorship of a family member and the likelihood of remitting was significant for five regions, but significant for the amount in only two cases.

The negative correlation between older ages and the likelihood of remitting was significant for six of the nine regions, but the correlation with the amount sent was significant in only one case.

Table 5 Logistic regression on the probability of remitting by region of birth

Region	A	B	C	D	E	F	G	H	I
					β coefficient				
Sex									
Men (ref*)	...	...	...	...	...	...	...	...	...
Women	-0.302	-0.127	0.015	-0.030	-0.058	-0.545*	0.101	-0.023	-0.445*
Age group									
15 to 24	-0.271	-0.200	-0.238	-0.293	-0.826*	-0.604*	-0.809*	-1.110*	-1.017*
25 to 34 (ref*)	...	...	...	...	...	...	...	...	...
35 to 44	0.399	-0.070	0.457	-0.303	-0.084	-0.195	-0.114	-0.146	-0.035
45 to 54	0.483	-0.405	0.273	-1.124	-1.140*	-0.721*	-0.766*	-0.525*	-0.958*
55 or older	0.441	-0.784*	-1.026	-0.666	-0.536	-2.454*	-0.591	-0.789*	-1.090*
Family income									
Less than $10,000	..	-0.557	-0.666	-0.568	-1.180*	-0.913*	-1.483*	-1.452*	-1.428*
$10,000 to $24,999	-0.530	-0.836*	-0.095	-0.775*	-0.447	-0.532*	-0.790*	-0.441*	-0.432*
$25,000 to $44,999 (ref*)	...	...	...	...	...	...	...	...	...
$45,000 to $69,999	-0.151	0.458*	-0.117	-0.067	-0.188	0.438*	0.454*	0.206	0.104
$70,000 or more	0.228	0.811*	0.348	0.284	-0.092	0.860*	0.823*	0.405*	0.352*
Savings abroad									
No saving abroad (ref*)	...	...	...	...	...	...	...	...	...
Less than $5,000	-0.109	-0.950	-0.338	-0.296	-0.311	0.319	-0.470	0.528*	-0.139
$5,000 to $24,999	-0.914*	-0.748	-0.544	-1.425	-1.383*	-1.319*	-0.252	-0.246	-0.192
$25,000 or more	0.193	0.605	-2.493*	-1.926*	-0.724	-0.490	-0.809	-0.599	0.103
Missing	0.354	-0.654	-0.528	-0.666	-1.104	-0.825	-0.525*	-0.429	0.086
Person most knowledgeable on income									
Respondent (ref*)	...	...	...	...	...	...	...	...	...
Other	-0.106	-0.197	-0.053	-0.576	-0.045	-0.051	-0.551*	-0.158	-0.302*
Employment status									
Employed full time (ref*)	...	...	...	...	...	...	...	...	...
Employed part time	-0.129	-0.055	-0.311	0.429	-0.113	-0.273	-0.451*	-0.199	-0.405*
Not employed	-0.356	-0.335*	-0.745*	0.197	-0.712*	-0.358	-0.683*	-0.584*	-0.214*
Education at landing									
Less than high school	-0.480	-0.527*	-0.031	0.552	-0.155	0.071	0.861*	0.345	0.189
High school	-0.405	-0.269	0.045	1.325*	-0.003	-0.219	0.986*	0.118	0.024
Completed postsecondary	-0.397	-0.174	-0.870*	0.677	-0.201	-0.191	0.217	0.082	-0.163
University degree (ref*)	...	...	...	...	...	...	...	...	...
Place of residence									
Toronto (ref*)	...	...	...	...	...	...	...	...	...
Montreal	-0.384	-0.026	0.339	-0.347	-0.066	-0.016	-0.465*	-0.176	-0.507
Vancouver	-0.274	0.250	-1.199	-0.125	0.861	0.285	0.006	0.354*	0.311*
Calgary, Edmonton	0.583	0.588*	0.046	-0.120	0.979*	1.419*	0.422*	0.490*	0.254
Other	-0.163	-0.016	0.816*	-0.427	0.822*	0.494	-0.029	0.921*	0.167
Children in household									
No children (ref*)	...	...	...	...	...	...	...	...	...
One	0.033	-0.154	-0.546	0.175	0.937*	-0.262	-0.166	-0.131	-0.301*
Two or more	-0.776*	-0.308	-0.641	0.060	-0.536	-0.650*	-0.319	-0.395*	-0.490*
Sponsorship									
None (ref*)	...	...	...	...	...	...	...	...	...
Spouse or child	1.646*	0.888*	1.001*	0.805	0.596	0.437	0.209	0.646*	0.390*
Parent or grandparent	0.507	0.315*	0.526	0.314	0.060	0.209	0.264	0.282	0.310*
Member of organization									
No (ref*)	...	...	...	...	...	...	...	...	...
Yes	0.061	0.239	0.247	0.259	0.511*	0.551*	-0.316*	-0.199	0.218
GDP/capita	-0.044*	-0.058*	-0.048	-0.083	-0.129*	-0.079*	-0.057*	-0.139*	0.198*
Constant	-0.172	0.279	0.641	-0.365	0.343	0.050	-0.674*	1.097*	-0.462

* statistically significant or significantly different from a reference group (ref) at 0.1 or better

A = North America, Western Europe, Oceania
B = Eastern Europe
C = Caribbean, Guyana
D = Central, South America
E = Sub-Saharan Africa
F = West Asia, Middle East, North Africa
G = Eastern Asia
H = Southeast Asia
I = South Asia

Source: Statistics Canada and Citizenship and Immigration Canada, Longitudinal Survey of Immigrants to Canada, 2000/2001 cohort.

Table 6 Ordinary least squares regression on the amount remitted by region of birth

Region	A	B	C	D	E	F	G	H	I
					β coefficient				
Sex									
Men (ref*)	...	...	...	...	...	...	...	...	...
Women	-0.536	-0.086	-0.083	-0.445	-0.229	-0.268	0.056	0.048	-0.173
Age group									
15 to 24	-0.747	-0.074	-0.155	-0.408	-0.179	-0.438*	0.046	-0.136	-0.147
25 to 34 (ref*)	...	...	...	...	...	...	...	...	...
35 to 44	0.157	-0.154	-0.030	-0.077	0.137	-0.292*	-0.143	0.041	-0.077
45 to 54	-0.147	-0.036	-0.418	0.852	0.509	-0.031	-0.019	-0.014	-0.003
55 or older	-0.317	-0.206	-0.416	-1.125	-1.073	0.217	-0.390	-0.095	-0.144
Family income									
Less than $10,000	..	-0.414	-0.163	0.786	-0.165	-0.823*	-0.298	-0.916*	-0.549
$10,000 to $24,999	0.354	-0.476*	-0.256	-0.441	-0.435*	-0.524*	-0.047	0.109	-0.472*
$25,000 to $44,999 (ref*)	...	...	...	...	...	...	...	...	...
$45,000 to $69,999	0.271	0.161	-0.093	0.009	0.157	0.422*	0.095	0.418*	0.232*
$70,000 or more	1.233*	0.331*	0.024	0.901*	0.823*	0.549*	0.361*	0.486*	0.363*
Savings abroad									
No saving abroad (ref*)	...	...	...	...	...	...	...	...	...
Less than $5,000	0.101	-0.133	0.109	0.330	0.479	0.048	0.633*	-0.100	-0.069
$5,000 to $24,999	0.791	0.263	-0.274	-0.732	0.551	0.613	-0.037	0.140	0.175
$25,000 or more	0.443	0.803*	2.865	-1.025	-0.831*	0.571	-0.021	0.201	-0.225
Missing	0.054	-0.648*	0.419	-0.921	-0.817	-0.374	0.209	0.506*	-0.263
Person most knowledgeable on income									
Respondent (ref*)	...	...	...	...	...	...	...	...	...
Other	0.539	0.029	-0.015	-0.047	-0.168	-0.037	-0.219	-0.161	0.104
Employment status									
Employed full time (ref*)	...	...	...	...	...	...	...	...	...
Employed part time	-0.387	-0.151	0.072	-0.534	0.157	0.061	-0.072	-0.220	-0.204
Not employed	0.230	-0.001	-0.049	-0.567*	0.044	-0.110	0.017	-0.164	-0.210*
Education at landing									
Less than high school	0.881	-0.621	-0.466*	-0.801	-0.499	0.022	-0.296	-0.396*	-0.066
High school	0.382	-0.048	-0.636*	-0.646	-0.540*	0.044	-0.261	-0.263	-0.149
Completed postsecondary	0.768*	-0.183	-0.566*	-0.540	-0.244	0.204	-0.172	-0.086	-0.031
University degree (ref*)	...	...	...	...	...	...	...	...	...
Place of residence									
Toronto (ref*)	...	...	...	...	...	...	...	...	...
Montreal	0.188	0.030	0.208	0.290	-0.676*	0.101	0.094	0.214	0.296
Vancouver	0.773	-0.029	0.987	0.538	-0.242	0.011	-0.065	0.072	0.423*
Calgary, Edmonton	1.079*	0.187	-0.714	0.037	-0.223	0.215	0.234	0.061	0.064
Other	0.870*	-0.015	-0.092	0.404	-0.427	-0.019	-0.074	0.001	0.211
Children in household									
No children (ref*)	...	...	...	...	...	...	...	...	...
One	-0.645	-0.016	-0.062	0.361	-0.109	-0.618*	-0.025	-0.210	-0.121
Two or more	-0.520	0.109	-0.317	-0.149	-0.428*	-0.381*	0.069	-0.273*	-0.352*
Sponsorship									
None (ref*)	...	...	...	...	...	...	...	...	...
Spouse or child	0.711	0.830*	0.381	-0.488	0.623*	0.225	-0.011	0.047	-0.070
Parent or grandparent	0.732	0.063	0.242	-0.339	0.114	0.261	0.210	0.073	0.060
Member of organization									
No (ref*)	...	...	...	...	...	...	...	...	...
Yes	0.493	-0.072	-0.065	-0.083	0.044	0.051	0.052	0.067	-0.188*
GDP/capita	0.033	-0.020	0.022	-0.251*	-0.013	0.043*	-0.007	-0.005	-0.123
Constant	5.343*	7.306*	7.322*	9.694*	7.892*	7.450*	7.645*	7.038*	8.384*

* statistically significant or significantly different from a reference group (ref) at 0.1 or better

A = North America, Western Europe, Oceania
B = Eastern Europe
C = Caribbean, Guyana
D = Central, South America
E = Sub-Saharan Africa
F = West Asia, Middle East, North Africa
G = Eastern Asia
H = Southeast Asia
I = South Asia

Source: Statistics Canada and Citizenship and Immigration Canada, Longitudinal Survey of Immigrants to Canada, 2000/2001 cohort.

Overall, the significance of financial and family characteristics was far more evident in terms of the decision to remit than for the amount sent. Furthermore, the results suggest a considerable interregional consistency in some of the factors correlated with remittance behaviour, most notably financial and familial characteristics.

In other instances the correlates of remittance behaviour appear to be more evident for specific regions. For example, women from South Asia and West Asia, the Middle East and North Africa had a negative correlation with the likelihood of remitting. Such correlations were not evident for other regions.

In the literature, evidence on the significance and direction of the correlation between education and remitting is mixed. This was also the case here. Among immigrants from Eastern Europe, those with less than high school education were less likely to remit than those with a university degree. Among immigrants from the Caribbean and Guyana, those with a postsecondary certificate or diploma were less likely to remit than those with a degree. The correlation runs in the opposite direction among immigrants from Central and South America and from Eastern Asia, as immigrants with lower levels of educational attainment were more likely to remit. However, remitters with lower levels of educational attainment sent less money than those with university training for three of the nine regions.

Finally, a strong, positive correlation was seen between membership in an organization and remitting for immigrants from sub-Saharan Africa and West Asia, the Middle East and North Africa.

Summary

During their initial years in Canada, a significant minority of new immigrants send money to family or friends abroad. On an annual basis, the average amount was approximately $1,450, accounting for about 6% of personal and 3% of family income before taxes.

Remittance behaviour varied greatly. Within a single landing cohort, the incidence of remitting among immigrants from different countries ranged from less than 10% to around 60%, while the annual amounts ranged from about $500 to almost $3,000. Financial and family characteristics were consistently significant among immigrants from all regions. In contrast, other factors, such as sex and education, were significant for some regions but not others. Furthermore, large intercountry and interregional differences remained after socioeconomic characteristics and group composition were taken into account.

Perspectives

Notes

1. Considerable emphasis has been placed on earnings trajectories after arrival, economic returns to foreign credentials and experience, ability to find employment in an area of specialization, and incidence of low income. For a review see Picot 2004.

2. Predicted probabilities for each independent variable were estimated by setting the other independent variables to their mean values.

3. Some researchers have used the Heckman selection model (1976) to take into account the possibility that the sample of immigrants who remit may be a selective sample of those who could have remitted (Funkhouser 1995; Brown and Piorine 2005). Several Heckman models were run using different specifications to address this issue but evidence of selectivity was not found. Our results are consistent with several studies that also report that selection effects are modest or not statistically significant (Menjivar et al. 1998; Funkhouser 1995).

4. All dollar figures have been rounded to the nearest $100. Remittance amounts reported 2 years and 4 years after arrival have not been adjusted for inflation. Questions about remitting and remittance amounts were included in the income section of the LSIC questionnaire. This section includes numerous questions about the income of the respondent and respondent's family—all of which refer to the 12-month period preceding the interview. At the end of the section, respondents were asked if they had remitted since their last interview, and if so, how much they had remitted. Here, the reference period shifts from the 12 months preceding the survey to the 18- or 24-month period preceding the survey (the duration varies between Waves 2 and 3). Given the sudden shift in the reference periods, it is not clear if respondents who reported remittance amounts had a 12-month or 18/24-month reference period in mind.

5. The estimates in Chart A are computed by taking the average of the incidences of remitting at LSIC Wave 2 (i.e. 24 months after landing) and at LSIC Wave 3 (i.e. 48 months after landing). This approach reduces standard errors around the estimates (which are still large in many cases) and simplifies the presentation of the data. The same approach is used for Chart B.

6. For immigrants who remitted, average family income after expenditures on housing (rent or mortgage, taxes and utilities) was also computed and used to estimate remittances as a share of family income after housing expenditures. For immigrants in all three admission categories, remittances accounted for about 4.0% to 4.9% of family income after housing expenditures

7. In this section, within-region correlations with P-values of 0.1 or better are flagged as statistically significant. The usual threshold of 0.05 was relaxed because of the small number of cases in several of the models.

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A profile of the Canadian Forces

Jungwee Park

Canada's military makes up a small but significant segment of Canadian society. The Canadian Forces (CF) are an important part of the country's national image, both at home and abroad. On the international front, these highly trained men and women are repeatedly called upon to participate in the humanitarian, peacekeeping and security missions of international organizations such as the UN and NATO; while domestically, their expertise is often needed in search and rescue operations and aiding citizens cope with natural disasters such as forest fires, floods, avalanches and ice storms. Additional responsibilities include assisting in the protection of Canada's fisheries and in the detection and interception of shipments of illegal drugs.

The forces also contribute significantly to the economy. With more than 111,000 people on the payroll (including about 24,000 civilian workers), the Department of National Defence (DND) and CF together are Canada's second largest employer and the single largest public service employer, making a significant contribution to local, provincial and territorial economies (DND 2008a). In the fiscal year 2006/2007, Canada's military spending was $15.7 billion (DND 2008b).

The military generally increased in the late 1980s, reaching its highest numbers in 1991 with more than 120,000 people (Chart A). The subsequent decline continued until 2001 when personnel numbered 81,600, about a 33% decrease. Since then, the forces have grown steadily, reaching 87,700 in 2006. These changes are related to the international political climate—the rapid decline occurring after the end of the Cold War and the recent increase coinciding with the war on terror since 9/11.[1]

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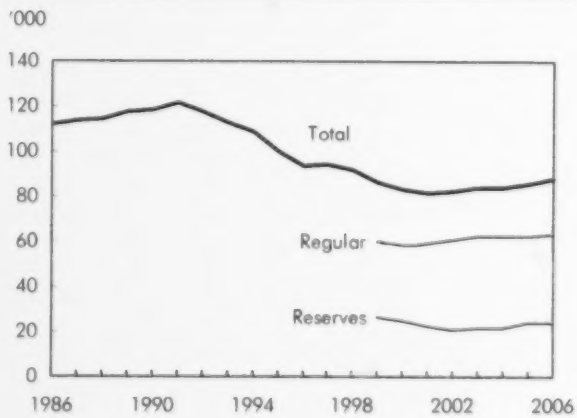
This article profiles the personnel of the Canadian Forces as a special group distinct from the rest of the Canadian labour force. Using the Canadian Forces Supplement to the Canadian Community Health Survey (CCHS) – Mental Health and Well-being, it also compares the military's prevalence rates of work stress and other work-related mental health issues with those of the civilian working population and investigates whether any specific groups experience a higher prevalence.

The distinctive work arrangements and responsibilities of the military, especially missions to conflict-ridden places, such as Bosnia-Herzegovina, Rwanda or Afghanistan,[2] warrant examining the psychological well-being and work stress of CF members. However, wartime conditions are not the only source of

Chart A After hitting their nadir in 2001, military personnel increased for the next five years



Source: Department of National Defence, Military personnel and wages and salaries, 1986 to 2006.

Table 1 Characteristics of military personnel and civilian workers, aged 15 to 64

		Regular forces			Reserve forces			
	All military	All regular	Officer	Non-commissioned	All reserve	Officer	Non-commissioned	Total civilian workers
				%				
Sex								
Men	85.3 *	87.8 *	85.6 *	88.4*	79.2*†	84.9*	78.1*	53.3
Women	14.7 *	12.2 *	14.4 *	11.6*†	20.8*†	15.1*†	21.9*††	46.7
Age								
15 to 24	19.3	9.9 *	10.4 *	9.7*	42.1*†	10.2*	48.0*††	19.3
25 to 39	51.8 *	57.7 *	49.2 *	60.2*†	37.4*†	48.6*	35.4 *††	33.3
40 to 54	28.3 *	32.0 *	39.3 *	30.0*†	19.2*†	37.6	15.8*††	36.6
55 to 64	0.6 *	0.4E*	1.1E*	F	1.3*†	3.6*†	0.9E*†	10.7
Education[1]								
Less than high school	6.5 *	7.1 *	F	9.0*	4.3*†	F	5.7*†	13.3
High school diploma	28.0 *	31.4 *	5.5 *	38.7*†	15.2*†	4.9*	18.5 *††	19.5
Some postsecondary	12.7 *	13.1 *	6.2	15.1*†	11.0*†	7.0	12.2*††	6.6
Postsecondary degree/diploma	52.6 *	48.2 *	88.1 *	37.1*†	69.4*†	88.1*	63.4*††	59.6
Immigrants	5.9 *	4.1 *	6.0 *	3.6*†	10.0*†	9.2*†	10.2*†	20.6
Official language								
English only	53.8 *	51.4 *	26.6 *	58.3*†	59.9*†	54.6*†	60.9*†	64.5
French only	3.8 *	3.0 *	F	3.8*	5.9*†	2.2*E	6.6*††	10.7
Both	42.2 *	45.6 *	73.1 *	37.8*†	33.9*†	43.1*†	32.2*††	23.5
Neither	0.2E*	F	F	F	F	F	F	1.3
Visible minority	6.4	4.5 *	3.4 *	4.8*†	11.1*†	5.9*†	12.0*††	17.1

* significantly different from total civilian workers at 0.05 or less
† significantly different from the same column of regular forces at 0.05 or less
†† significantly different from officers at 0.05 or less
1. Population 25 or older.
Source: Statistics Canada, Canadian Community Health Survey Cycle 1.2, 2002.

stress—in addition to military-specific stressors such as deploying overseas, frequent change of station and temporary duty away from home, day-to-day aspects of the job like work responsibilities, work hours, or difficulties with supervisors have a significant effect on the psychological well-being of military personnel (Pflanz and Sonnek 2002; Sudom et al. 2006). CF members may be exposed to numerous stressful events and be at risk of experiencing job stress.

Moreover, psychological ill health of military personnel may compromise their physical health, impair work performance or decrease quality of life; it also has a significant economic impact, in both civilian and military populations (Fikretoglu et al. 2007; Pflanz and Ogle 2006; Hourani et al. 2006; Dobreva-Martinova et al. 2002).

Regular and reserve forces differ

The two primary components of the CF are regular and reserve forces.[3] Generally speaking, while the regular force consists of full-time personnel, most members of the reserves are part-time personnel (for more detailed classifications see *Data source and Definitions*). The reserves are used to mobilize or expand the army when needed. In other words, they are eligible to deploy on operations, and in recent years more and more reservists were supporting overseas missions (DND 2008c). As well, the reserves augment the professional forces by providing soldiers, units or specialists to the CF (DND 2008c). For example, reservists in Afghanistan provide their expertise in medicine and psychological operations in addition to combat responsibilities (Castonguay 2008).

Table 2 Characteristics of military personnel

	Men	Women	Regular	Reserves	All military
			%		
Rank					
Junior	58.7	66.0*	56.3	68.2†*	59.8
Senior	21.2	14.1*	21.8	16.2†*	20.1
Officer	20.2	19.8	22.0	15.6†*	20.1
Region					
Atlantic	22.0	18.8*	22.7	18.8†*	21.6
Quebec	16.7	18.1	15.1	21.3†*	16.9
Central	33.6	36.3*	34.4	33.2	34.0
Western	27.7	26.8	27.9	26.8	27.6
Service					
Land	57.4	47.6*	50.2	70.1†*	56.0
Air	23.9	30.6*	31.5	8.7†*	24.9
Sea	17.0	18.8	18.3	14.8†*	17.3
Communication	1.7	3.0*	F	6.5	1.9
Years in service					
Less than 10	32.9	41.8*	23.7	59.9†*	34.2
10 to 24	53.4	52.8	62.9	29.9†*	53.3
25 or more	13.7	5.4*	13.4	10.3†*	12.5
Occupation					
Combat arms	32.3	10.8*	22.2	46.1†*	29.1
Communications	6.0	5.0	6.5	4.3†*	5.9
Maritime	5.1	4.2*	4.8	5.5	5.0
Maritime communications	3.5	3.5	3.7	3.1	3.5
Maritime technical	3.2	0.4†*	3.9	F	2.8
Aviation	6.9	4.3*	8.0	2.9†*	6.5
Aviation technical	7.4	5.0*	9.1	2.1†*	7.1
Administration, etc.[1]	19.0	46.7*	23.9	20.8†*	23.0
Engineering	2.3	1.3*	2.4	1.5†*	2.1
Technical	8.9	1.8*	9.1	4.8†*	7.9
Medical	3.4	13.0*	4.8	4.9	4.8
General officer specialist	2.0	4.1*	1.6	3.9†*	2.3

* significantly different from men at 0.05 or less
† significantly different from regular forces at 0.05
1. Includes logistics, security, intelligence or emergency services.
Source: Statistics Canada, Canadian Community Health Survey Cycle 1.2, 2002.

Over the last five years, the regular forces and the reserves showed similar increasing trends. In 2006, the CF had about 64,000 regular members and 24,000 reservists. But reserve personnel tend to be much younger than regular force members. More than 40% of reservists were under 25, compared with only 10% of full-time military personnel (Table 1). However, this age cohort in the regular force showed a significant increase in recent years—by 2007, 17% (15% of officers and 18% of non-commissioned members) were under age 25 (calculation based on DND 2008d)—as a result of more young recruits.

More than one in five reservists were women compared with about one in eight in the regular forces in 2002. Also, while less than 5% of regular force personnel were immigrants or from a visible minority, more than 10% of reservists were. This reflects the many young reserve members from visible minority or immigrant groups.

Overall, 60% of CF personnel were junior non-commissioned members, from privates to master corporals; 20% were senior non-commissioned members, sergeants to chief warrant officers; and the remainder were officers. About 68% of reservists were junior non-commissioned members and 16% were officers, compared with 56% and 22% of the regular forces (Table 2). The rank structure of the regular forces changed little from 2002 to 2007 (DND 2008d).

Regular and reserve forces differed in terms of environment (land, air or sea). Among reservists, 70% were in the army, 9% air force and 15% navy, compared with 50%, 32%, and 18% for regular personnel. In terms of occupation, members of the reserve and regular forces play different roles in their services—reservists tended to concentrate much more in combat arms (e.g. infantry battalion, or armoured or artillery regiment) than regular force personnel (46% vs. 22%).

Members of the CF differ from civilian workers

Members of the military differed substantially from civilian workers aged 15 to 64 with respect to

Data source and definitions

The Canadian Community Health Survey (CCHS) – Canadian Forces supplement on mental health was used to profile military personnel. The target population for this survey was all full-time regular members of the Canadian Forces, and reservists who had paraded at least once in the past six months. In order to improve the efficiency of the survey design, each target population was stratified by sex and rank. Collection took place between May and December 2002 to allow for spreading the field workload and more time in which to contact respondents departing or returning from deployments or training courses. The vast majority of computer-assisted interviews were conducted face-to-face during working hours in private on-base rooms. A total of 5,155 regular forces personnel were interviewed, a response rate of 79.5%. For the reserves, the numbers were 3,286 and 83.5% (Statistics Canada 2003).

The 2002 Canadian Community Health Survey (CCHS) – Mental Health and Well-being was used to compare the general working population with the Canadian Forces. (The CCHS sample did not include regular forces personnel, but may have picked up some members of the reserves.) The survey covered people aged 15 or older living in private dwellings in the 10 provinces. Most interviews (86%) were conducted in person; the remainder, by telephone. Proxy responses were not accepted. The 36,984 interviews represented a response rate of 77%.

General working population were those aged between 15 and 64 working at jobs or businesses in the past 12 months.

Members of the regular forces are full-time personnel. They consist of officers and non-commissioned members in continuing, full-time military service. Its all units, other elements, and members are at all times liable to perform any lawful duty. When enlisting, the members are signing on for an initial engagement ranging from three to nine years, not including subsidized training or education. The initial engagement can be followed by an indefinite period of service or a continuing engagement. According to the current terms of service, they can retire after 25 years.

Members of the reserve forces are part-time military personnel. They consist of officers and non-commissioned members enrolled for other than continuing, full-time military service when not on active service. Its all units, other elements, and all members may be ordered to train for such periods as are prescribed in regulations made by the Governor in Council and may be called out on service to perform any lawful duty other than training at such times and in such a manner as by regulations or otherwise are prescribed by the Governor in Council. Service in the reserves is voluntary and is for an indefinite period. Reservists are enrolled to serve on a part-time basis but may volunteer for full-time employment.

The reserve force has four sub-components: Primary Reserve, Cadet Instructor Cadre (CIC), Canadian Rangers, and the Supplementary Reserve (DND 2008g).

The **Primary Reserve** is the largest and is commonly what people refer to when using the term 'reserves.' Its personnel train regularly on a part-time basis with occasional periods of full-time service. It is divided into Naval, Army, Air, Communications, Health Services, Legal, and the National Defence Headquarters Primary Reserve List.

CIC officers are responsible for the safety, supervision, administration, and training of cadets aged 12 to 18.

Canadian Rangers provide a military presence that cannot conveniently or economically be provided by other components of the CF in sparsely settled northern, coastal, and isolated areas.

The **Supplementary Reserve** consists of former members of the regular and reserve forces. They do not perform training or duty but provide a pool of personnel that could be called out in an emergency (DND 2008e).

Reserve service falls in three classes: A, B and C. **Class A** is used for periods of service to a maximum of 12 consecutive days. A member of the Primary Reserve may be ordered to train on Class A only for an annual maximum of 60 days (DND 2004a). **Class B** is used for service of 13 or more consecutive days in a temporary full-time position on the instructional or administrative staff of a school or other training establishment; on such training attachment and such training course of such duration as may be prescribed by the Chief of the Defence Staff; or on duties of a temporary nature approved by the Chief of the Defence Staff, or by an authority designated by him, when it is not practical to employ members of the regular force on those duties. **Class C** service may be used at any authorized location, when the member is on full-time service and is serving with approval by or on behalf of the Chief of the Defence Staff in a regular force establishment position or is supernumerary to regular force establishment; or on either an operation or an operation of a type approved by or on behalf of the Chief of the Defence Staff.

Officer means a person who holds Her Majesty's commission in the Canadian Forces; a person who holds the rank of officer cadet in the Canadian Forces; and any person who pursuant to law is attached or seconded as an officer to the Canadian Forces. An officer is a leader trained to be responsible for a group of people. Higher levels of education and training are required for officers than non-commissioned members. Four rank groups are defined: General Officers, Senior Officers, Junior Officers, and Subordinate Officers.

A **non-commissioned member** is any person other than an officer, who is enrolled in, or who pursuant to law is attached or seconded otherwise than as an officer to, the CF. They fall into three rank groups: warrant officers, non-commissioned officers and privates.

nearly every demographic characteristic. CF personnel were much younger—more than 70% under 40 versus only 53% of civilians in 2002. This is not surprising since, unlike most other jobs, the forces still have a compulsory retirement age. Less than 1% of CF members were 55 to 64, compared with 11% of the working population.

International military expenditures, 2001

Canada currently ranks 6th in NATO in terms of defence budgets and 17th in terms of defence spending as a share of gross domestic product (GDP).

	Total	Share of GDP
	US$ (billions)	%
Belgium	2.2	1.3
Canada	7.3	1.1
Czech Republic	1.1	2.2
Denmark	2.4	1.5
France	25.3	2.6
Germany	21.0	1.5
Greece	3.3	4.8
Hungary	0.8	1.8
Iceland	0.0	0.0
Italy	15.5	1.9
Luxembourg	0.1	0.8
Netherlands	5.6	1.6
Norway	2.8	1.8
Poland	3.7	1.8
Portugal	1.3	2.1
Spain	6.9	1.2
Turkey	5.1	5.0
United Kingdom	34.0	2.4
United States	310.5	2.9

Source: Department of National Defence 2008b.

Today's CF personnel, however, tend to be much older than 20 years ago. In 2007, only 28% of the regular forces were under 30 (DND 2008d) compared with 53% in 1988 (Strike 1989). This change in the age profile may reflect the general trend of population aging, delayed retirement, and the intentional decrease in new recruits as part of 1990s downsizing.[4] Similarly, in 2002, about one-quarter of regular personnel had less than 10 years of service compared with 56% in 1988 (Strike 1989).[5]

Compared with the general working population, about twice the proportion of CF personnel were bilingual. More than 40% (46% for the regular forces and 34% for reservists) spoke both official languages. Such high percentages are due to the high proportions of bilingual officers (73% in the regular forces) and members from Quebec (77% bilingual).[6]

Overall, the Canadian military is predominantly male. However, women's representation has risen in recent decades. In 2002, 15% of all personnel were women—12% in the regular forces and 21% of reservists—up from 2% in 1972 and 10% in 1988 (Strike 1989).[7]

Similar to their male colleagues, about one in five female members were officers in 2002. According to the most recent data (DND 2008d) for the regular forces, a higher proportion of women than men were officers (28% compared with 23%).

Women's roles in the CF are quite different from those of men. More than 30% of women belonged to the air force compared with 24% of men, while a smaller proportion were in the army (48% vs. 57%). Women worked in all types of military occupations including combat duty, but their distribution was considerably different from men's.[8] While about one-third of men in the CF reported combat arms as their occupation, 11% of women did so. In 2002, about one-half of women worked in administration, logistics, security, intelligence, or emergency services compared with 19% of men. This indicates that women still continue to be concentrated in the more traditional support areas, including medical and dental, with some increases in less traditional occupations, particularly naval operations and maritime engineering, and a modest increase in combat arms (Soeters and Van der Meulen 2006).

An international comparison shows that women in the Canadian military have played greater roles (see *Women in the military*). Canadian women account for a higher share of personnel in the armed forces and a much higher share of deployments than in many other countries.[9]

Visible minorities under-represented

A very small proportion of CF personnel were members of visible minorities—only 6% of all CF members (5% of regular forces and 11% of reservists) were visible minorities compared with 17% of the civilian working population. This is much lower than the U.S. military's rate of 33% (Office of the Under Secretary of Defense, Personnel and Readiness 2006). Only 3% of officers in the regular forces were members of visible minorities.

Similarly, a very small portion were immigrants (6% compared with 21%). The low rates of visible minority and immigrant members may be related to the citizenship requirement for joining the CF. Currently, only Canadian citizens can join the regular forces (DND 2008e).[10]

Women in the military

Canada was one of the first NATO member countries to legally admit women to the military (1951) and has among the highest participation of women in terms of proportion of the force and deployment responsibilities.

	Year of admittance	Proportion in 2005	Deployed in 2005/2006
		%	%
Belgium	1975	8.3	20.6
Bulgaria	1995	6.0	
Canada	1951	12.6	26.8
Czech Republic	Early 1980s	12.2	
Denmark	1962	5.0	6.0
France	1972	12.8	5.0
Germany	1975	6.0	3.5
Greece	1979	16.0	
Hungary	1996	4.3	8.0
Italy	1999	1.0	
Latvia	1991	20.0	
Lithuania	1991	9.1	
Luxembourg	1980	5.7[1]	
Netherlands	1979	9.0	
Norway	1977	6.3	
Poland	1988	0.5	1.3
Portugal	1992	8.4	Up to 10
Romania	1973	5.0	
Slovakia	Early 1980s	7.1	
Slovenia	1991	15.4	
Spain	1988	10.7	
Turkey	1955	4.0	
United Kingdom	1949	9.0	
United States	1948	15.5	11.0

1. 2006.
Source: Committee on Women in the NATO Forces (NATO 2008).

However, even after excluding recent immigrants (in Canada less than 10 years) and adjusting for age, significant differences in visible minority and immigrant representation remain between the CF and the civilian working population (data not shown). The under-representation of visible minorities in the CF can be explained by many factors (Jung 2007): the importance of education, family, and ethnic identity;[11] a relatively low ranking of military service as a career, combined with the negative image provided by their own native militaries; and insufficient numbers in senior ranks to provide the necessary positive role models. However, visible minority representation in the CF is important because they are the fastest growing segment of the Canadian population, particularly in the traditional recruitment target age group of 17 to 24 (Rueben 2004).

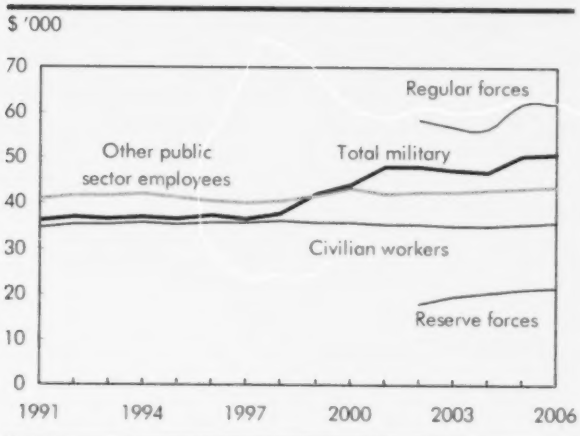
Wages, income and education

Whereas the earnings of civilian workers remained relatively constant at $35,000 (in 2002$) for the last decade and a half, CF personnel experienced steady increases since the late 1990s. On average, they have earned more than other public sector employees since 1999 (Chart B).[12] Earnings of reservists increased in recent years, although their average was as low as $21,000 in 2006, which is not surprising given that as part-timers many of them had other jobs. As well, about 40% of them were still students (DND 2004b).

Rising military wages and salaries correlate with the age structure of the members. The aging of CF personnel was accompanied by increased levels of experience. In 1988, 35% of personnel had served 10 to 24 years and only 9% had 25 or more years of service (Strike 1989). In 2002, 63% had served 10 to 24 years and 13% had 25 or more.

The steady increase in earnings also coincided with rising levels of education. To meet the high technical demands of modern warfare, more recognized training and education are necessary. In 2002, more than half of CF members aged 25 or older had a postsecondary degree or diploma (88% of officers; 37% of non-commissioned members in the regular forces, 63% in the reserves). In 1988, 19% of regular force personnel had a postsecondary degree or diploma[13] and 26% had less than high school graduation (Strike 1989).[14] By 2002, postsecondary graduation had increased to 48% and less than high school graduation had fallen to 7%. Even with the increase, postsec-

Chart B CF members had higher overall earnings than civilian workers



Note: Earnings in 2002 dollars.
Sources: Department of National Defence, Military personnel and wages and salaries; Statistics Canada, Survey of Employment, Payrolls and Hours, 1991 to 2006.

Not surprisingly, incomes of CF personnel vary considerably by rank—personnel are paid first by rank and then by specific occupation. Among men, the median income in 2002 was $73,000 for officers and $48,000 for non-officers.

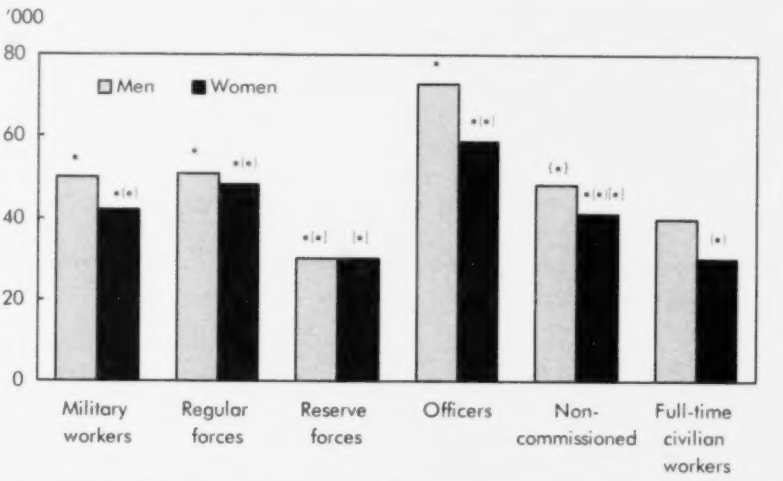
As well, clear differences were evident in the median incomes of men and women for all groups except the reserves. Among officers, the median income for men was higher than for women ($73,000 vs. $59,000), mainly due to the high share of men found at higher ranks. As the forces are a bottom-loaded system, it may take considerable time for women to achieve greater representation at senior levels (Truscott and Dupre 1998).

The income gap between the sexes may also be related to the concentration of women in more traditional support areas. For instance, only 4% of women in the regular forces had participated in three or more deployment missions lasting three months or longer, compared with 26% of men. In addition, women's years of service were much lower than men's—only

ondary graduation among CF personnel was lower (53%) than for civilian workers aged 25 or older (59%). However, members of the reserves had higher rates (69%), reflecting on-campus recruiting.[15]

As with earnings, the annual income of military personnel was also higher than that of the full-time working population. In 2002, the median personal income of men in the CF was $50,000 compared with $40,000 for their civilian counterparts (Chart C). Among women, even non-commissioned members had higher incomes than the Canadian median ($42,000 vs. $30,000). The higher incomes for CF members may be explained in part by a variety of allowances received in addition to their salaries—for example, for exceptional hazard, field operations, paratroops, aircrew, rescue specialist, diving, sea duty and submarine.

Chart C CF members had higher median personal income than civilian full-time workers



* significantly different from the same sex group of all full-time civilian workers at 0.05 or less
(*) significantly different from men of the same group at 0.05 or less
(*) significantly different fom the same sex group of regular forces at 0.05 or less
(*) significantly different from the same sex group of officers at 0.05 or less
Source: Statistics Canada, Canadian Community Health Survey Cycle 1.2, 2002.

Table 3 Characteristics of psychological well-being among members of the military

	All	Regular forces	Reserve forces	Civilian workers
		%		
Life dissatisfaction	4.6*†	5.0*	3.8*†	4.0
Negative self-perceived mental health	7.8*	9.1*	4.8*†	5.9
Alcohol dependence	4.8*†	4.2*†	6.2*†‡	3.3
Major depression	6.9*	8.0*	4.2*†	4.8

* significantly different from total civilian workers at 0.05 or less
† significantly different from regular forces at 0.05 or less
1. significance disappeared after age-sex adjustments.
Source: Statistics Canada, Canadian Community Health Survey Cycle 1.2, 2002.

5% had served for 25 or more years in 2002, compared with 14% of men.[16]

Psychological well-being

Small but statistically significant differences in psychological well-being existed between full-time CF members and the civilian workforce in 2002 (see *Psycho-social well-being*). Members of the regular forces were more likely to be dissatisfied with their life (5% vs. 4%), to perceive their mental health as fair or poor (9% vs. 6%) and to have had major depression in the past 12 months (8% vs. 5%). As well, compared with reservists, regular forces personnel showed a higher prevalence of depression and negative self-perceived mental health (Table 3).

For better comparability, the psychological well-being of civilian full-time managers was compared with that of military officers in the regular forces (Chart D). Similarly, non-commissioned personnel were compared with non-managers.[17] Military officers had higher rates of negative self-perceived mental health and major depression; and non-officers seemed to have lower psychological well-being (Chart E). More than 5% of non-commissioned members were dissatisfied with their life and 9% felt that their mental health was fair or poor. Compared with less than 5% of non-managers, 8% of non-commissioned staff had had a major depression in 2002.

Differences in alcohol dependence disappeared after age-sex adjustments. Higher rates of dependence among CF personnel were due to their being young and predominantly male.

To investigate whether any specific groups in the CF are under a greater risk of psychological ill health and work stress, multivariate logistic regression models were developed. Associations between psychological health and military-related variables such as rank, type of CF (regular or reserve), career deployments, and months absent due to military responsibility were examined while controlling for possible confounders such as age, marital status, income and education. Psychological well-being and

Psycho-social well-being

Life dissatisfaction: very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, or very dissatisfied. For this article, respondents answering very dissatisfied or dissatisfied were considered to have life dissatisfaction.

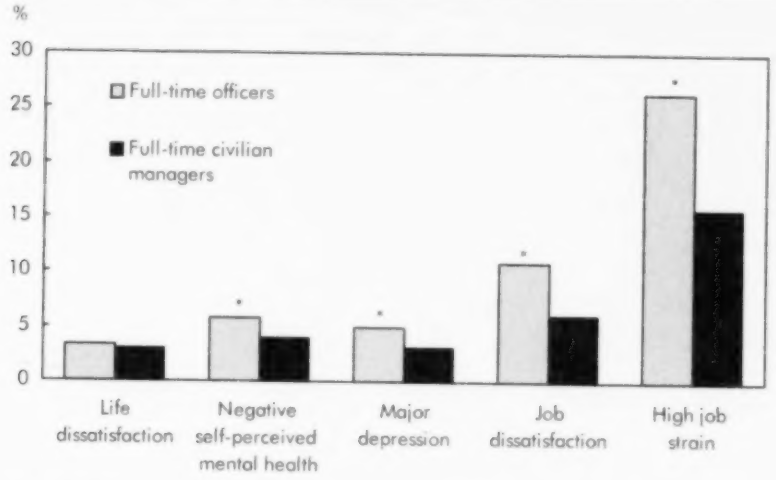
Negative self-perceived mental health: excellent, very good, good, fair or poor. For this study, respondents answering fair or poor were considered to be in negative self-perceived mental health.

Major depression (past 12 months) is a period of two weeks or longer with persistent depressed mood and loss of interest or pleasure in normal activities, accompanied by symptoms such as decreased energy, changes in sleep and appetite, impaired concentration, feelings of guilt or hopelessness, or suicidal thoughts. The definition and criteria are from the *Diagnostic and Statistical Manual of Mental Disorders* used by the American Psychiatric Association.

Alcohol dependence (past 12 months) is measured by questions on alcohol use and behaviour and attitudes towards drinking. The definition includes alcohol-related withdrawal, loss of control, or social or physical problems. The questions are based on an international instrument that provides diagnostic estimates for psychoactive substance use disorder.

The algorithms used to measure the 12-months prevalence of major depression and alcohol dependence are available in the Annex of the 2004 Health Reports supplement (Statistics Canada 2004).

Chart D Military officers had higher work stress than civilian managers



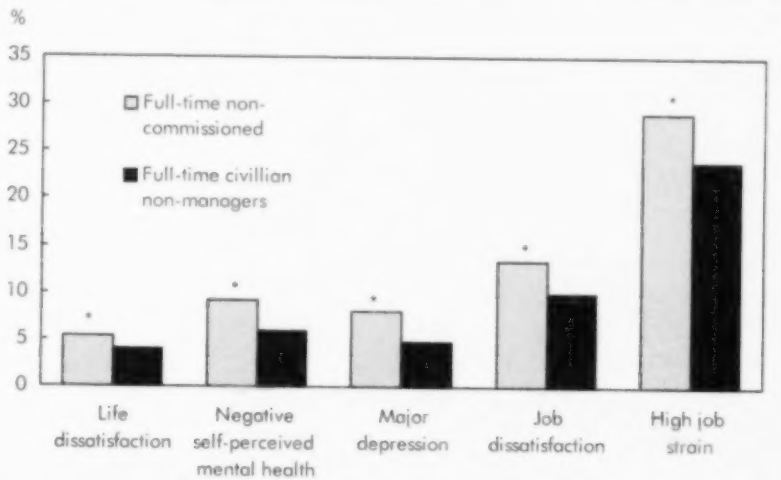
* significantly different from full-time civilian managers at 0.05 or less
Source: Statistics Canada, Canadian Community Health Survey Cycle 1.2, 2002.

work stress were measured by prevalence of life dissatisfaction, negative self-perceived mental health, 12-month major depression, job dissatisfaction, high job strain, and alcohol dependence. Since the analyses were based on cross-sectional data, neither causality nor temporal ordering of events can be inferred.

Being away from home for long periods of time due to deployment, exercises, sea time, individual or collective training courses, temporary duty, aid to civil authorities, or Canadian disaster relief missions was associated with life dissatisfaction and alcohol dependence (Table 4). The effects were significant even after controlling for other socio-demographic and military-occupation variables such as sex, age, personal income, education, deployments and years in the service. CF members away from home more than 12 months in the past 24 were almost twice as likely to have alcohol dependence as those away less than 6 months.

Members of the regular forces were almost twice as likely as reservists to perceive their mental health as poor or fair rather than good, very good, or excellent. Women in the CF were 1.7 times more likely than men to have been depressed in the past 12 months. Compared with married personnel, those never or previously married had a significantly higher prevalence of mental health problems such as life dissatisfaction, negative self-perceived mental health, and alcohol dependence (data not shown). These findings on inter-group differences are generally consistent with studies on the U.S. military (Hourani et al. 2006).

Chart E Military non-commissioned personnel had higher life and job dissatisfaction than civilian non-managers



* significantly different from full-time civilian workers at 0.05 or less
Source: Statistics Canada, Canadian Community Health Survey Cycle 1.2, 2002.

Table 4 Adjusted odds ratios for psychological well-being and work stress among military personnel

	Life dissatisfaction	Negative self-perceived mental health	Major depression	Job dissatisfaction	High job strain	Alcohol dependence
	adjusted odds ratio					
Sex						
Men (ref*)	1.00	1.00	1.00	1.00	1.00	1.00
Women	1.10	1.44*	1.70*	0.99	1.24*	0.40*
Rank						
Officers (ref*)	1.00	1.00	1.00	1.00	1.00	1.00
Non-commissioned	1.50*	1.62*	1.65*	1.16	1.14	1.58*
Total forces						
Regular	1.48*	1.89*	2.05*	1.60*	1.44*	1.03
Reserve (ref*)	1.00	1.00	1.00	1.00	1.00	1.00
Number of deployments in career						
None (ref*)	1.00	1.00	1.00	1.00	1.00	1.00
1 to 2	0.75*	0.82	0.94	1.10	0.98	1.25
3 or more	0.97	1.12	1.10	0.92	0.92	0.87
Months away from home in past two years						
Less than 6 (ref*)	1.00	1.00	1.00	1.00	1.00	1.00
6 to 12	0.94	0.99	0.90	0.99	1.11	1.21
More than 12	1.26*	1.09	1.09	1.26	1.56*	1.71*

* significantly different from reference group (ref) at 0.05 or less
Note: Adjusted for age, marital status, personal income, education and years served.
Source: Statistics Canada, Canadian Community Health Survey Cycle 1.2, 2002.

Work stress

Full-time CF members[18] and civilian workers reported different types of work stress (see *Measuring stress*). CF personnel indicated higher levels of job security and co-worker support. Less than 2% of military personnel felt job insecurity compared with 14% of full-time civilian workers (Table 5). High co-worker support among CF members may be related to the nature of military work, which involves close collegial collaboration and clear role definitions.

On the other hand, members of the regular forces were less likely to be satisfied with their job—13% reported job dissatisfaction compared with 10% of civilians. As well, 28% of the forces had high job strain compared with 23% of civilians.[19] This indicates that more CF personnel felt their job requirements did not match their capabilities, resources or needs.

Table 5 Work stress among members of the regular forces

	Regular forces	Civilian full-time workers
	%	
Job insecurity	1.8*	14.3
Job dissatisfaction	12.7*	9.5
High job strain	28.4*	22.9
Low co-worker support	37.4*	40.7
Self-perceived work stress	30.8*[1]	33.2

* significantly different from civilian full-time workers at 0.05 or less
1. significance disappeared after age-sex adjustments.
Source: Statistics Canada, Canadian Community Health Survey Cycle 1.2, 2002.

To be more specific, 26% of military officers had high job strain compared with 16% of full-time civilian managers. Compared with non-managers in civilian jobs, non-commissioned members of the military showed higher job strain (29% vs. 24%) and job dissatisfaction (13% vs. 10%).

Multivariate analyses reaffirmed that high job strain was also associated with months away from home due to deployment responsibilities—CF personnel away from home more than 12 months were 1.6 times more likely to have job stress than those away less than 6 months—but that the number of deployments had no significant impact. Even though women deploy less frequently than their male colleagues, they were 1.2 times more likely to have high job strain. The number and length of deployments were not associated with work stress among women in the CF (data not shown).[20] As well, regular personnel were 1.6 times more likely than reservists to be dissatisfied with their job—similar to the U.S. situation, where military job satisfaction was reported to be higher among the reserves and National Guard personnel than among those on active duty (Sanchez et al. 2004).

Conclusion

The Canadian military has faced numerous changes and challenges in recent decades. After a steady decline in the 1990s, the number of personnel has increased since 2001. In 2006, the CF comprised 64,000 full-time regular force members and 24,000 reservists. Military members are much younger than other workers. The number of women among both officers and non-commissioned members has grown since the early 1970s (Strike 1989) and their roles in the CF have expanded. Yet women accounted for only 15% of the CF (12% of regular forces) in 2002. Visible minorities were also significantly under-represented, less so among reservists.

Education and income levels of CF personnel increased over the past decade. More than half had postsecondary graduation and average earnings of regular forces personnel were higher than those of other public sector employees. Since the late 1990s, average CF pay has increased rapidly.

Although CF personnel reported solid job security and co-worker support, they experienced some issues related to psychological well-being and work stress. Compared with the overall working population, they reported higher rates of life and job dissatisfaction, job strain, major depression, and self-perceived negative mental health. This was particularly true for women, the regular forces, non-commissioned members and those who had to be away from home for longer-term deployment responsibilities.

Measuring stress

To measure work stress, the CCHS employed an abbreviated version of Karasek's Job Content Questionnaire (JCQ). The CCHS measured work stress of respondents who worked at jobs or businesses in the past 12 months. Twelve items in the JCQ (for details see Park 2007) are used to measure job control, psychological demands, job insecurity, and social support at workplace. The job strain ratio was calculated by dividing the adjusted score for psychological demands by that of job control. A small constant (0.1) was added to numerator and denominator to avoid division by 0. To deal with outliers, scores were capped at 3. Respondents were classified as being in **high job strain** if the ratio was 1.2 or higher.

Respondents who strongly disagreed or disagreed with "your job security is good" were classified as having **job insecurity.** Respondents were classified as having **low social support at workplace** if they agreed or strongly agreed with being exposed to hostility or conflict from the people they work with or disagreed or strongly disagreed with supervisors' or co-workers' being helpful in getting the job done.

Additionally, respondents were asked if they were very satisfied, somewhat satisfied, not too satisfied, or not at all satisfied with their job. Those who were not too satisfied or not at all satisfied were classified as having **job dissatisfaction.**

Self-perceived work stress at the main job or business in the past 12 months was measured by asking whether most days at work were not at all stressful, not very stressful, a bit stressful, quite a bit stressful, or extremely stressful. Respondents answering quite a bit or extremely stressful were classified as having high self-perceived work stress.

Perspectives

Notes

1. The decrease in the 1990s was facilitated by the Forces Reduction Program (FRP), which offered a compensation package designed to entice members to take early release or retirement. The FRP resulted in the release of almost 14,000 members (Truscott and Dupre 1998).
2. Since the CCHS was conducted in 2002, the year of the first major wave of Canadian soldiers to Afghanistan, the sample did not include those on or returning from deployment. As well, it is unlikely that those awaiting imminent deployment would have participated in the

survey. For post-deployment health outcomes, see Zamorski and Galvin 2008 or US Department of Defense Task Force on Mental Health 2007.

3. Another component is the Special Force. According to Queen's Regulations and Orders for the Canadian Forces, (Chief of Defence Staff 2008), members of the regular forces and members of the reserve forces on active service or having applied for and been accepted for continuing full-time military service may be placed in a special force established and authorized by the Governor in Council in an emergency, or if considered desirable in consequence of any action undertaken by Canada under the *United Nations Charter*, the *North Atlantic Treaty* or any other similar instrument for collective defence.

4. In 2004, the compulsory retirement age for the CF was extended from 55 to 60.

5. Due to the increased number of recruits in recent years, in 2007 more than half of CF members had less than 10 years of service (DND 2008d).

6. This is much higher than the percentage of bilingual workers (46%) in the province of Quebec (data not shown).

7. Women's representation in the regular forces increased to 14% in 2007 (DND 2008d).

8. In 1989, a Human Rights Tribunal ordered the CF to fully integrate women into all occupations (except submarine service) by 1999. After the last barrier of submarine duty was lifted in 2001, all military occupations were open to women (Bourgon 2007; Chief Review Services 1998). Canada was the first NATO country to achieve this, although Norway, Denmark and Belgium have since followed.

9. Many allied nations including the UK still do not allow women in combat.

10. CF policy states that applicants must hold Canadian citizenship. However, a waiver may be granted by the Commander of the Canadian Forces Recruiting Group (CFRG) for exceptional cases: holders of Permanent Resident Status who possess specialized skills/qualifications the CF needs and cannot fill with a Canadian citizen and who do not pose a risk to any national interest (DND 2008f).

11. This also explains their relatively higher interest in the reserves, since the primacy of family, higher education, and professional (respectable) careers can still be pursued within the civilian sector (Jung 2007).

12. The data for public-sector employees include both full- and part-time workers.

13. Trades certificate or diploma, college diploma or certificate, university certificate, or bachelor's or post-graduate degree.

14. Strike used rates for all age groups, rather than 25 or older.

15. Many individuals join the reserves while attending university since the CF offers pay and summer jobs that may be ideal for students.

16. By 2007, 7% of women had served 25 or more years (DND 2008d).

17. This comparison is not perfect since some high-ranking non-commissioned personnel play the role of manager or supervisor.

18. The comparison with the general working population focuses on the regular forces because it is not known whether reservists refer to their military service or civilian job as the source of work stress.

19. Similarly, U.S. military personnel were reported to have higher job stress and dissatisfaction than their civilian counterparts (Pflanz and Sonnek 2002; Sanchez et al. 2004). According to a recent study, more than one-quarter of the military population studied reported significant job stress (Pflanz and Ogle 2006).

20. Similar findings were found in a U.S. study. For men, first deployments and longer deployments were associated with an increase in meeting criteria on one of the clinical scales. In contrast, women's overall primary screen rates remained relatively stable throughout the deployment, regardless of how long they were deployed or whether they had been previously deployed (Huffman et al. 2000).

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Changes in family wealth

Raj K. Chawla

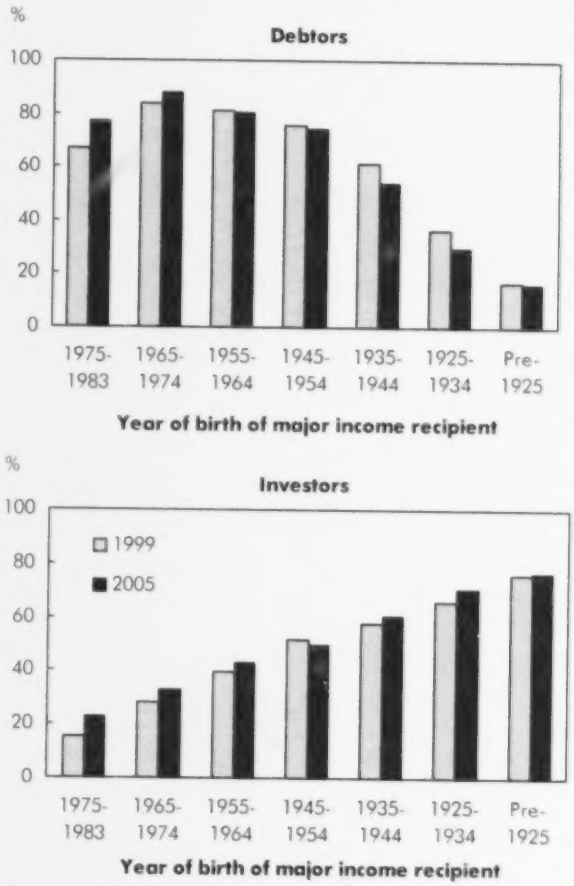
The Canadian economy performed well between 1999 and 2005. Buoyed by rising incomes coupled with stable inflation and low interest rates, Canadians went on a spending spree.[1] However, much of the increased spending was financed through credit, as the personal savings rate fell from 4.0% to 1.6% and per capita debt climbed to $28,400 in 2005. Did this additional debt support increased consumption or was it invested in appreciating assets?

Using the Survey of Financial Security, this paper compares family assets and debts in 2005 with the situation in 1999. The survey collected data on 18 financial assets, ranging from the risk-free (bank accounts and term deposits, Canada Savings Bonds) to riskier investments in stocks and mutual funds—whether tax-sheltered like RRSPs or not.[2]

Families are divided into seven cohorts, based on the year of birth of the major income recipient (MIR), ranging from those in their 20s in 2005 to those 80 and over (see *Data source and definitions*). These cohorts are matched back to major income recipients from the same birth cohorts surveyed in 1999. For example, those aged 22 to 30 in 2005 correspond with 16- to 24-year-olds in 1999. These seven groups are not true cohorts since they consist of 'similar' individuals at two points in time. Nevertheless, they provide an intuitive look at the accumulation of assets and debts across the life cycle.[3]

The groups together paint a portrait of the typical family as it passes along the life course: finishing their education and leaving the parental home (20s); launching their careers and starting new families (30s); amassing assets and raising the next generation (40s); paying off major debts and beginning retirement planning (50s); winding down careers and easing into retirement (60s); downsizing and drawing on savings (70s); and, finally, managing assets as the end of life approaches (80s).

Chart A The proportion of debtors increases early in the life cycle but declines steadily later



Source: Statistics Canada, Survey of Financial Security, 1999 and 2005.

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Data source and definitions

The analysis is based on the **Survey of Financial Security** (SFS) for the years 1999 and 2005. The survey collected information on family demographics, assets and debts at the time of the survey, and income during the preceding calendar year. It covered private households in the 10 provinces. Excluded were persons living on Indian reserves, members of the armed forces, and those living in institutions such as prisons, hospitals, and homes for seniors.

Each year used a regular area sample supplemented by a small sample of 'high income' households in order to improve wealth estimates at the upper end of the income distribution. Financial data were sought from the family member most knowledgeable about the family's finances. Although the sample size of the 2005 SFS was about one-third of that in 1999, the surveys were otherwise identical. This simplifies not only the comparability of wealth by components, but also measurements of change over time. Nonetheless, two adjustments were made to the 1999 data: first, the sample was re-weighted following the procedure used for the 2005 sample, and second, all money data were converted to 2005 dollars in order to remove the effect of inflation—acknowledging that it may not have affected all assets uniformly. The analysis is based on a sample of 15,933 families in 1999 and 5,103 in 2005.

Family refers to economic families and unattached individuals. An economic family is a group of persons sharing a common dwelling and related by blood, marriage, common law or adoption. An unattached individual lives alone or with unrelated persons.

The **major income recipient** is the family member with the highest income before tax. If two persons had exactly the same income, the older one was selected.

Pre-tax family income is the sum from all sources during the calendar year received by family members aged 16 and over. Sources include wages and salaries, net income from self-employment, investments, government transfers, pensions, scholarships and alimony. Excluded are income in kind, tax refunds, and inheritances.

Government transfers include all direct payments from federal, provincial and municipal governments to individuals or families. These include Child Tax Benefits, Employment Insurance, Canada/Quebec Pension Plan benefits, Old Age Security, Guaranteed Income Supplement, Spousal Allowance, Goods and Services Tax credit, workers' compensation, social assistance, provincial tax credits, and training allowances.

Financial assets consist of liquid and non-liquid assets. Liquid assets include deposits held in chequing and savings accounts, term deposits, guaranteed investment certificates, Canada Savings Bonds (including accrued interest), and other bonds. Non-liquid assets comprise registered retirement savings, registered education savings, registered retirement income funds, deferred profit sharing plans, treasury bills, stocks, mutual funds, mortgages owned, loans to others, annuities, trust funds, and other miscellaneous financial assets.

Non-financial assets are the market value of the owner-occupied home, other real estate, market value of owned vehicles (including recreational), value of the contents of a residence, other valuables and collectibles, and other non-financial assets.

Business equity is the market value of business assets less the book value of debt outstanding.

Savings in employer pension plans at the family level are the sum of accrued savings that can be claimed by members covered under such plans on termination of their job. Among retirees, these reflect their current entitlement. In both surveys, such pension savings were estimated on the basis of information collected on the type of plan, yearly contribution, and the number of years contributed, etc.[7] Unlike conventional assets like a home or business, savings in such plans are not transferable except to a surviving spouse.

Total debt comprises any mortgage on an owner-occupied home or other real estate and all non-mortgage debt; the latter includes amounts owing on credit cards, secured and unsecured loans (including lines of credit from banks and other institutions), car loans, and other unpaid bills.

Wealth is total assets less total debt. It is based on marketable assets (with the exception of savings in employer pension plans) that are in direct control of families. It does not include future claims on publicly funded income security programs or any potential returns on human capital (like employment income or the ability to generate investment income).

To keep tables to a manageable size, wealth was examined in terms of eight components: savings in employer pension plan, business equity, home equity, equity in other real estate, and equity in vehicles, value of contents of residence, other non-financial assets, and net financial assets (total financial assets less total non-mortgage debt).

Mean wealth is aggregate wealth divided by the total number of families, whereas **median wealth** is the value at which half the families have lower values and half have higher values. The mean value is affected by extreme values whereas the median is not.

The **Gini coefficient** is a measure of inequality in a distribution. It lies between zero (no inequality) and one (total inequality)—the closer it is to 1.0, the greater the inequality in the distribution.

A family is treated as a **debtor** if it owes any money on a mortgage or other debt, and as an **investor** if it has non-zero investment income for the reference year. Investment income includes interest earned on deposits and bonds, dividends from stocks or mutual funds, and net rental income.

It is important to remember that this approach approximates how the assets and debts of a demographic cohort progessed over 6 years, as opposed to comparing groups of the same age at different points in time.

Although the primary focus of the cohort analysis is the accumulation of wealth, it was the sharp increase in debt from 1999 to 2005 that motivated this study. Thus it begins with a look at the ebb and flow of debt across the life cycle (see *Family cohorts*).

Debt mounts until about age 40, then declines

The rate of indebtedness is largely a function of life-cycle stage. Young families typically start with low incomes and high expenses related to establishing a home and raising children. The imbalance is resolved by home mortgages and other forms of credit. As incomes increase over time and financial needs drop, families not only pay down their debt but also begin to invest. Indebtedness peaks at over 80% by the time the MIR is 40 and then slides below 20% after retirement (Chart A). On the other hand, the proportion of families with investment income increases steadily, from 15% for the youngest group in 1999 to 77% for the oldest in 2005.[4]

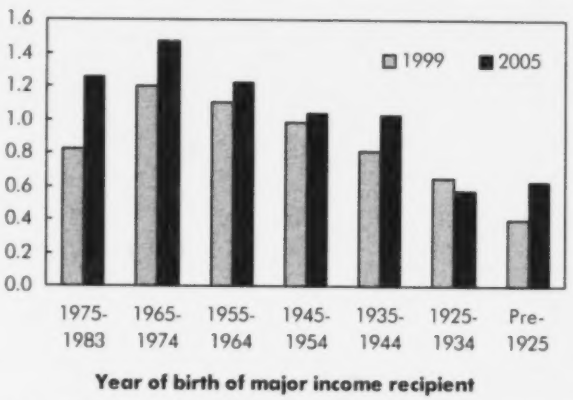
Although life-cycle patterns explain much of the asset and debt picture, economic trends are also important. Historically low interest rates at the beginning of the 2000s facilitated borrowing—the overall debt-to-income ratio jumped from 1.02 in 1999 to 1.21 in 2005—as average debt jumped by almost a third, from $62,700 to $82,500, while average family income increased only about 10%, from $61,600 to $68,100 (Chart B). Only families with a major income recipient in their 70s reduced their average debt load. Most of the new debt went into the booming housing market, fuelled by low interest rates, low down payment options and a strong labour market. Still, other types of debt grew in lock-step so that the overall distribution changed little.

Even though more families were indebted and carrying larger financial liabilities in 2005, they were still wealthier—mean wealth holdings rose from $281,000 in 1999 to $380,700. Half of this additional wealth was non-financial— home equity, vehicles, other real estate, home contents, and valuables and collectibles. The other half consisted of savings in employer pension plans, business equity and net financial assets.

Families in their 20s

Families in the youngest cohort represented 6% of all families in 1999 (Table 1). Families in this (and

Chart B The debt-to-income ratio declines steadily after age 40



Source: Statistics Canada, Survey of Financial Security, 1999 and 2005.

Family cohorts

To study changes in family wealth over time, the ideal source would be longitudinal. However, using surveys conducted at different times allows the creation of groups of families (cohorts) sharing a common characteristic. The usual classifying characteristic is the age of a person—in this study, the major income recipient at the time of the 1999 survey. While other characteristics such as the type of family, area of residence, or income may change over time and contaminate the concept of a cohort, a person's age is least volatile and easy to use.

To avoid the problem of a family of two or more changing over time into two or more unattached individuals or vice versa, families and unattached individuals are used collectively as a unit of analysis. Given the range of age groups, the major income recipient may have changed, especially if one spouse retired and the other continued to work. Families with a major income recipient who was under 22 or who immigrated to Canada after 1999 were excluded from the 2005 data (accounting for 5.2% of families and 1% of the total wealth).[5] No adjustment was made for emigrants who left after July 1999, or for those who may have been temporarily away between 1999 and April 2005.

Cohorts were created as follows:

Year of birth	Age of major income recipient at time of survey		In text, families are referred to as in their
	1999	2005	
1975 to 1983 (Cohort 1)	16 to 24	22 to 30	20s
1965 to 1974 (Cohort 2)	25 to 34	31 to 40	30s
1955 to 1964 (Cohort 3)	35 to 44	41 to 50	40s
1945 to 1954 (Cohort 4)	45 to 54	51 to 60	50s
1935 to 1944 (Cohort 5)	55 to 64	61 to 70	60s
1925 to 1934 (Cohort 6)	65 to 74	71 to 80	70s
Pre - 1925 (Cohort 7)	75 plus	81 plus	80s

Table 1 Pre-tax income and wealth of families by cohort

Year of birth of major income recipient	Families	Total wealth	Mean income	Median income	Mean wealth	Median wealth	Change in mean wealth	Change in mean wealth due to: Families with assets or debts	Change in mean wealth due to: Value of assets or debts
	%				2005 $				%
1999	**100.0**	**100.0**	**55,600**	**43,700**	**281,000**	**120,500**	**99,800**	**7.9**	**92.1**
1975 to 1983	5.6	0.5	21,300	14,000	25,100	1,800	24,600	95.7	4.3
1965 to 1974	18.6	6.3	49,400	42,800	94,600	32,800	85,500	34.0	66.0
1955 to 1964	24.5	18.4	63,600	55,000	210,800	106,900	246,000	10.2	89.8
1945 to 1954	19.5	26.0	72,500	59,100	373,600	209,100	196,300	-0.7	100.7
1935 to 1944	12.9	23.6	59,400	46,200	514,600	305,900	67,300	-37.6	137.6
1925 to 1934	10.9	16.0	44,000	35,500	414,500	291,700	69,700	1.0	99.0
Pre-1925	8.0	9.3	38,300	26,500	323,800	188,500	65,700	26.3	73.7
2005	**100.0**	**100.0**	**61,000**	**46,600**	**380,700**	**163,200**	...	...	...
1975 to 1983	15.7	2.0	40,300	32,700	49,600	13,000	...	...	...
1965 to 1974	17.7	8.4	67,100	57,000	180,100	91,500	...	...	...
1955 to 1964	22.8	27.4	79,200	65,400	456,800	221,500	...	...	...
1945 to 1954	18.7	28.0	70,500	58,100	569,900	330,700	...	...	...
1935 to 1944	12.7	19.5	51,700	41,100	581,900	377,700	...	...	...
1925 to 1934	8.5	10.8	42,100	33,100	484,200	332,400	...	...	...
Pre-1925	3.8	3.9	35,000	26,900	389,500	237,200	...	...	...

Source: Statistics Canada, Survey of Financial Security, 1999 and 2005.

the next) cohort are at the stage of family formation and expansion, home purchase, and asset building. 'Family' is used in the broad sense, since as many MIRs remained single as were married by 2005. Not surprisingly, because accumulation takes time, young families have the lowest holdings of financial assets. By 2005, they had raised their share of total wealth from 0.5% to 2.0%. Their mean holdings nearly doubled (from $25,100 to $49,600), almost entirely due to changes in the rates of asset ownership and debts owed. About half of this cohort's wealth gain came from home equity and contents and savings in an employer pension plan; another third came from net financial assets. For instance, 26% owned a home in 2005 compared with just 8% in 1999, while the respective proportions in mortgaged homes were 95% and 76%. Even this early in their careers, 42% had RRSPs and 33% had employer pension plans in 2005 compared with 21% and 13%, respectively, in 1999. On the other hand, seven in ten had outstanding loans (education, vehicle or other) or credit card balances owing.

The composition of total financial assets changed the most (44 percentage points) for these young families. From having 55% of their assets in bank accounts and term deposits and 17% in RRSPs in 1999, they had switched to 50% in RRSPs and just 22% in accounts and term deposits by 2005.

Families in their 30s

This cohort represented 19% of all families in 1999. Even though these families took on more additional debt (41%) than any other cohort, their mean wealth almost doubled—from $94,600 to $180,100. One-half of this increase came from home equity alone, followed by increases of 15% in employer pension plans and 12% in net financial assets. These three components accounted for nearly 80% of the increase in this cohort's wealth.

By this stage, the majority were two-spouse families with children. More of them had a home with a mortgage, raising their rate of homeownership from 41% to 62%. And, to provide for their children's postsecondary education, the proportion with RESPs jumped

from 7% to 21%, compared with much smaller increases for savings in an employer pension plan (from 38% to 49%) or an RRSP (from 57% to 63%) (Table 2).

Despite the substantial gains for this cohort, their share of total wealth increased only modestly—from 6% to 8%.

Families in their 40s

This cohort consisted of the latter half of the baby boomers. They were in their peak income years and represented 25% of all families in 1999. Even though they took 29% of the additional household credit, they improved their share of total wealth from 18% in 1999 to 27% by 2005—the largest gain in wealth share of any cohort.

A little over half of these families were couples with children and/or other relatives and another one-fifth were unattached individuals. Not only did the incidence of homeownership among families in this cohort rise between 1999 and 2005 (from 63% to 74%), their holdings of other real estate also increased (from 15% to 21%). In fact, they had the highest change in the rate of ownership of other real estate. Although the proportion with RRSPs remained unchanged (65%), the proportion with RESPs more than doubled—from 10% to 22%. And their employer pension plan participation rose from 47% to 52%.

These late boomers had the largest increase in wealth, more than doubling their holdings from $210,800 in 1999 to $456,800 by 2005. Equity in a family home and other real estate accounted for almost one-half of this gain and business equity for another one-fifth. The remainder came from employer pension plans and net financial assets (Table 3).

Families in their 50s

The older baby boomers, within sight of retirement, accounted for 20% of all families in 1999. Their share of total wealth increased modestly—from 26% in 1999 to 28% in 2005—all because of the amounts of assets and debts. Since many in this cohort had become 'empty-nesters'—the proportion of two-spouse families with children dropped from 30% to 10%—they likely had more money to invest or pay off debts.[5] Homeownership rose marginally from 71.1% to 75.9% as did the proportions of those with RRSPs (from 66.8% to 69.2%) or employer pension plans (from 53% to 56%).

These early boomers increased their wealth holdings by $196,300, bringing the amount to $569,900 in 2005. Accrued savings in employer pension plans alone accounted for 43% of the gain, followed by 41% for equity in home or business. Net financial assets accounted for a meagre 9% of the gain.

Families in their 60s

Families in this cohort were transitioning into retirement. In 1999, more than half of them (55%) had employment earnings as the major source of income compared with less than one-third (32%) in 2005. Overall, they represented 13% of families in 1999, comprising largely couples and unattached individuals. Their share of wealth fell from 24% in 1999 to 20% by 2005—not because their wealth declined, but because the wealth of other cohorts increased more.

Three-quarters of these families lived in an owned home and a little over half had savings in employer pension plans. Not too surprisingly, the proportion holding RRSPs fell by 11 percentage points (from 66% to 55%), counterbalanced by a similar increase in the proportion holding RRIFs (in 2005, it was still mandatory to convert funds held in RRSPs into RRIFs by age 69). Also, the proportion owning a business fell from 21% to 13% and other real estate from 26% to 21%. Apparently some families reaching their 60s opted to wrap up or sell their business or investment properties (if not transferred to the next generation) and convert the proceeds into financial or other assets.

As might be expected, these families had the highest mean wealth—$581,900 in 2005 compared with $514,600 in 1999. An increase in home equity alone accounted for 59% of this gain, followed by 30% for employer pension plans and 29% for net financial assets. As business ownership dropped, so did the contribution of business equity.

Families in their 70s

These elderly unattached individuals and couples constituted 11% of all families in 1999. They were mostly retired, with government transfers and retirement income as their major sources of income (see *Families dependent on government transfers*). Between 1999 and 2005, their share of total wealth fell from 16% to 11% as their numbers dropped because of deaths and they began to use their savings to fund consumption. The proportions owning real estate, a business, vehicles, or RRSPs fell, whereas the proportions holding RRIFs or

Table 2 Families owning selected assets and owing debts

	Year of birth of major income recipient							
	1975-1983	1965-1974	1955-1964	1945-1954	1935-1944	1925-1934	Pre-1925	Total
					%			
1999								
Assets								
Home	7.8	41.0	62.5	71.1	74.4	71.7	61.6	59.6
Other real estate	4.6	8.6	14.9	22.5	25.5	19.3	12.2	16.3
Business	3.3	16.7	24.8	27.7	21.4	8.9	4.0	18.8
Vehicle	45.8	74.0	81.5	83.3	82.8	78.2	59.8	76.5
Employer pension plan	12.9	37.6	47.1	52.5	54.3	55.2	44.0	46.0
Canada Savings Bonds	7.7	9.2	14.3	14.1	16.3	14.8	19.8	13.7
Stocks or mutual funds	8.7	19.9	20.9	24.4	26.4	20.8	15.9	21.0
Registered education savings plan	1.8	6.7	10.2	7.3	2.0	0.6	0.3	5.6
Registered retirement savings plan	21.3	57.4	65.2	66.8	65.5	33.9	5.3	53.4
Registered retirement income fund	0.0	F	F	F	5.2	33.6	25.7	6.5
Debts								
Mortgage on home	5.9	37.4	49.3	42.2	24.3	9.4	3.0	32.0
Line of credit	5.6	17.2	20.9	20.6	14.7	6.1	2.1	15.4
Credit cards	27.8	43.6	41.0	36.3	27.8	16.3	7.4	32.7
Vehicle loan	18.3	28.8	25.8	23.8	17.2	9.4	2.7	20.8
Student loan	29.8	22.5	9.6	13.6	5.2	1.8	F	11.7
Mortgage debt (overall)	7.0	39.3	52.0	45.4	27.5	10.9	3.2	34.3
Non-mortgage debt	65.4	77.6	70.9	66.0	54.5	32.3	14.6	60.1
Total debt	66.7	83.7	81.1	75.9	61.7	36.3	17.1	67.3
2005								
Assets								
Home	25.8	62.2	73.9	75.9	73.4	72.0	61.0	63.9
Other real estate	6.3	12.4	20.5	20.9	21.2	16.4	11.3	16.3
Business	9.0	19.8	23.4	23.0	12.8	6.0	2.9	16.8
Vehicle	63.9	81.6	80.4	83.7	79.1	71.1	56.4	76.8
Employer pension plan	32.7	48.5	51.5	55.7	56.2	62.2	57.3	50.5
Canada Savings Bonds	8.7	9.6	11.7	11.8	8.8	12.1	12.9	10.6
Stocks or mutual funds	11.2	18.8	22.4	19.6	22.3	20.5	19.2	19.2
Registered education savings plan	4.6	20.9	22.3	8.1	2.2	1.3	F	11.4
Registered retirement savings plan	42.1	62.6	65.6	69.2	54.5	6.4	F	53.2
Registered retirement income fund	F	F	1.1	2.4	15.5	51.6	27.8	8.3
Debts								
Mortgage on home	24.6	55.9	50.0	35.2	18.3	6.0	F	34.8
Line of credit	20.5	31.6	35.0	26.8	22.3	8.5	F	25.5
Credit cards	40.2	45.4	40.5	37.2	23.9	12.2	5.4	34.8
Vehicle loan	29.3	30.3	33.2	31.6	17.3	9.8	F	26.6
Student loan	32.2	16.4	8.7	6.9	1.5	F	F	11.5
Mortgage debt (overall)	27.0	57.0	53.1	39.3	20.9	6.4	3.7	37.2
Non-mortgage debt	72.9	77.5	72.3	67.2	48.7	27.1	13.7	63.3
Total debt	76.8	87.8	80.6	74.1	54.1	29.9	16.1	69.9

Source: Statistics Canada, Survey of Financial Security, 1999 and 2005.

Table 3 Decomposition of growth in mean wealth and composition of wealth of families

	Year of birth of major income recipient							
	1975-1983	1965-1974	1955-1964	1945-1954	1935-1944	1925-1934	Pre-1925	Total
				$				
Change in mean wealth	**24,600**	**85,500**	**246,000**	**196,300**	**67,300**	**69,700**	**65,700**	**99,800**
				%				
Decomposition by component	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Employer pension plan	15.4	15.3	15.4	43.2	30.2	21.3	53.5	26.3
Business	4.5	5.9	19.3	17.6	-14.8	-13.5	-10.9	13.9
Home	20.9	51.4	26.9	23.8	58.6	57.1	53.2	34.5
Other real estate	1.6	5.9	20.4	5.3	-4.8	12.2	9.5	13.7
Vehicle	6.4	3.3	0.7	1.0	0.5	-3.5	-1.9	0.8
Contents of residence	15.8	6.7	1.2	-0.2	-2.6	0.8	-2.8	0.8
Other non-financial assets	0.8	-0.5	0.2	0.0	3.6	1.0	-2.3	0.1
Net financial assets	34.6	12.1	16.0	9.4	29.3	24.7	1.6	9.9
Composition of wealth								
1999	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Employer pension plan	1.0	7.2	12.6	18.4	27.1	25.8	19.3	19.9
Business	5.0	21.3	18.2	13.6	9.1	4.8	3.7	11.5
Home	42.3	25.6	29.1	26.2	23.2	26.6	29.4	26.4
Other real estate	14.6	6.9	5.4	6.9	6.7	5.1	4.2	6.1
Vehicle	11.6	6.0	4.2	3.0	2.6	2.6	1.8	3.2
Contents of residence	19.4	13.8	8.9	5.9	4.2	4.0	4.4	6.2
Other non-financial assets	4.1	2.7	2.1	1.2	1.1	0.7	0.9	1.4
Net financial assets	2.1	16.6	19.4	24.7	26.1	30.4	36.4	25.4
2005	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Employer pension plan	8.1	11.0	14.1	27.0	27.4	25.2	25.1	21.5
Business	4.7	14.0	18.8	15.0	6.3	2.1	1.2	12.1
Home	31.7	37.8	27.9	25.3	27.3	31.0	33.4	28.5
Other real estate	8.2	6.4	13.4	6.4	5.4	6.1	5.1	8.1
Vehicle	9.0	4.7	2.3	2.3	2.3	1.7	1.2	2.5
Contents of residence	17.6	10.4	4.7	3.8	3.4	3.5	3.2	4.8
Other non-financial assets	2.5	1.2	1.1	0.8	1.4	0.8	0.3	1.0
Net financial assets	18.2	14.5	17.6	19.4	26.5	29.6	30.5	21.4

Source: Statistics Canada, Survey of Financial Security, 1999 and 2005.

employer pension plans rose.[6] Between 1999 and 2005, these families increased their mean wealth by only $69,700 (to $484,200) with 57% coming from home equity alone, 25% from financial assets and 21% from employer pension plans.

Since mortality is a significant factor in the number and size of families in their 70s and 80s, it is important to note that the population in these cohorts is becoming less comparable at the beginning and end of the period. Therefore, the increases in wealth observed towards the end of the life course in these artificial cohorts may be due to unequal probabilities of death across the wealth distribution. True longitudinal data would be required to determine whether wealth typically increases or declines towards the end of the life course.

Families in their 80s

In this age cohort, unattached individuals outnumbered couples. They dropped from 8% of all families in 1999 to only 4% by 2005. Not surprisingly then, their share of total wealth fell from 9% to 4%. The proportion of homeowners remained unchanged at 61%, but the proportion of those with an employer pension plan rose from 44% to 57% (this apparent anomaly may arise because an elderly major income recipient is liv-

Changes in wealth distribution

Families in their 20s, 30s and 40s took most of the household credit between 1999 and 2005 and also experienced major shifts in their wealth distributions. For example, the proportion of families in their 20s with a net worth of less than $10,000 dropped from 70% to 45%, whereas the proportion worth between $50,000 and $249,999 jumped from 7% to 24% as these families increased their financial assets or bought a home. Overall, the distribution of wealth shifted by 26 percentage points for families in their 20s, 24 points for those in their 30s and 23 points for the 40s cohort. The shift was minimal (7 points) for families in their 60s. For instance, 14% had a net worth of one million dollars or more in 1999 compared with 15% in 2005. On the other hand, relatively more baby boomer families in their 50s and 40s increased their wealth to one million dollars or more (see *Millionaire families* for more details).

Overall, the distribution of wealth shifted by 8 percentage points—all at the upper end of the distribution—as families increased their wealth. However, the shape of the curve remained unchanged as median wealth stayed at 43% of the mean, and inequality measured by the Gini coefficient remained at 0.678. Statistically, the situation was not much different by cohort with the exception of families in their 20s and 30s whose wealth was slightly more equally distributed in 2005 than in 1999 as more of them owned a home. Median wealth rose from 7% to 26% of the mean for those in their 20s and from 35% to 51% for the 30s cohort—indicating reduced skewness in their wealth distributions.

Distribution of families by wealth

	Year of birth of major income recipient							
	1975-1983	1965-1974	1955-1964	1945-1954	1935-1944	1925-1934	Pre-1925	Total
				%				
1999	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $10,000	70.3	32.3	17.5	11.9	11.6	9.7	9.2	19.8
$10,000 to $29,999	15.1	15.8	8.9	5.9	4.9	4.1	6.4	8.7
$30,000 to $49,999	5.6	10.4	6.5	4.1	2.9	3.8	4.3	5.8
$50,000 to $99,999	4.3	17.3	15.4	10.8	7.6	8.4	11.7	12.2
$100,000 to $249,999	2.9	16.0	28.7	22.6	16.9	18.6	29.2	21.1
$250,000 to $499,999	0.5	5.8	14.3	23.1	19.8	27.6	21.5	16.4
$500,000 to $999,999	0.7	1.6	6.7	15.1	22.2	19.3	11.7	10.8
$1,000,000 or more	0.5	0.8	2.1	6.4	14.0	8.7	6.1	5.2
Median/mean wealth ratio	7.3	34.7	50.7	56.0	59.4	70.4	58.2	42.9
Gini coefficient of wealth	...[1]	0.755	0.656	0.615	0.586	0.537	0.586	0.678
2005	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $10,000	45.1	20.9	12.3	10.5	9.7	6.0	7.6	17.6
$10,000 to $29,999	18.1	10.6	5.8	5.5	2.4	6.5	9.9	8.3
$30,000 to $49,999	9.4	5.2	4.1	2.3	2.3	2.3	3.8	4.4
$50,000 to $99,999	13.7	15.5	10.2	6.1	6.2	6.8	9.1	10.1
$100,000 to $249,999	10.3	25.4	21.3	17.7	19.2	20.6	20.1	19.2
$250,000 to $499,999	2.5	14.9	23.7	19.9	20.4	21.7	23.4	17.5
$500,000 to $999,999	0.5	5.7	13.8	22.1	25.0	23.5	17.4	14.2
$1,000,000 or more	0.4	1.7	8.8	15.8	14.9	12.6	8.7	8.6
Median/mean wealth ratio	26.2	50.8	48.5	58.0	64.9	68.6	60.9	42.9
Gini coefficient of wealth	0.840	0.655	0.667	0.602	0.568	0.531	0.576	0.678

1. Since many families had a negative wealth, the coefficient turned out to be greater than 1.0 and is not shown here.
Source: Statistics Canada, Survey of Financial Security, 1999 and 2005.

ing with a younger spouse or other relative). Between 1999 and 2005, mean wealth for these families increased from $323,800 to $389,500. Similar increases in employer pension plans and home equity accounted for most of the gain.

Conclusion

Between 1999 and 2005, Canadian families took on $215 billion of additional debt while increasing their wealth by $1,386 billion. Most of this additional wealth

Millionaire families

The proportion of families with a net worth of one million dollars or more rose from 5% in 1999 to 9% in 2005. Almost all of the increase was concentrated among the baby boomers—for those in their 50s, the proportion jumped from 6% to 16%; for those in their 40s, from 2% to 9%. One in three millionaires were baby boomers in 1999 compared with about 6 in 10 by 2005. Among the oldest cohort, the proportion fell from 9% to 4% as a result of deaths, business wind-ups, home downsizing, or use of financial assets. The median age of the major income recipient in millionaire families fell from 58.2 to 56.9, but increased from 43.7 to 46.4 among non-millionaires.

On average, millionaire families held 10 times more wealth than non-millionaires ($1.9 million versus $190,000 in 1999 and $2.1 million versus $222,000 in 2005). While non-millionaires derived most of their wealth from home equity and an employer pension plan, millionaires' wealth came mostly from net financial assets, followed by business and home equity. The mean pre-tax income of millionaires, on the other hand, was only 2.5 times that of non-millionaires—$135,000 versus a little over $50,000. Despite their higher incomes, the proportion of millionaires carrying debt increased from 51% in 1999 to 58% in 2005, while non-millionaires with debt inched up from 68% to 71%.

Wealth was more equally distributed than income for millionaires, but the reverse for non-millionaires.

Gini coefficients for income and wealth

	1999	2005
Income		
Millionaire families	0.425	0.413
Other families	0.407	0.399
Wealth		
Millionaire families	0.324	0.339
Non-millionaires	0.602	0.583

consisted of non-financial assets like a home, other real estate, vehicles and contents of a residence, and the actuarial value of employer pension plans. Since most of the additional debt was in mortgages, many families may have acquired assets using leverage.

Not all cohorts of families gained equally (see *Changes in wealth distribution*). Nearly half of the additional household wealth from 1999 to 2005 was accumulated by baby boomers in their 40s and almost another third by those in their 50s. The gain for the former consisted of increased equity in a home, other real estate, or a business, and financial assets, whereas for the latter it came from home equity and employer pension plans. Families in their 20s and 30s improved their net worth by way of homeownership and other financial assets.

A home remained a major asset for Canadian families and its equity the largest component of wealth for most. In fact, by 2005, home equity and employer pension plans constituted over one-half of total wealth for families in their 50s, 60s, 70s or 80s. Rising real estate values pushed up home equity, and the appreciation in home value, as a proportion of home equity increased in importance for older owners.

RRSPs remained the major financial asset for families from their 20s to their 60s and RRIFs for those in their 70s and 80s. Although more families in their 30s and 40s with children contributed to RESPs, amounts paled in comparison with RRSP holdings. On the other hand, the proportions of families investing in riskier assets like stocks and mutual funds outside of registered plans dropped for most cohorts between 1999 and 2005, as did the amounts in these holdings.

Families dependent on government transfers

In both 1999 and 2005, about one million families drew their entire pre-tax income from government transfers. Compared with families receiving no transfers, these families were much older—the median age of the major income recipient was 49.9 in 1999 and 54.2 in 2005. Their mean income was only about $12,000 compared with $100,000 for other families. Because of their lower income coupled with age, less than 40% owed money compared with over 80% of those without transfers.

Even though their mean wealth rose from $35,000 to $57,000, it was still only about 10% of the level for those without transfers. Since one-fifth to one-fourth of transfer-dependent families owned their home, this equity plus the value of the contents of residence constituted around 60% of their wealth compared with 30% for those with no transfers. Transfer-dependent families also had relatively more equity in other real estate and very little in the way of net financial assets or employer pension plans.[9]

In both years, wealth was much more unequally distributed among transfer-dependent families. Part of this may be attributed to the low proportion of homeowners in this group.

Overall, neither the shape of the wealth distribution nor inequality changed between 1999 and 2005. Nonetheless, general economic prosperity and rising real estate values resulted in 461,000 more families worth one million dollars or more—bringing the total to 1.1 million by 2005. On the other hand, 134,000 fewer families were totally dependent on government transfers.

Perspectives

Notes

1. Between 1999 and 2005, per capita income of Canadians rose from $32,300 to $42,600 (or 31.9%) whereas the rate of inflation, measured by the change in the all-items Consumer Price Index, varied between 1.8% and 2.8%, unemployment rate between 6.8% and 7.7%, and the trend-setting bank rate, that determines interest rates charged on a variety of personal loans including mortgages, between 2.50% and 5.77%.

2. Compared with the National Balance Sheet Accounts of the personal sector, a household survey collecting data on assets and debts usually provides underestimates of financial assets and slight overestimates of non-financial assets resulting in fairly comparable estimates of wealth. Under-reporting in a survey is primarily due to the poor recall capability and/or refusal of respondents. All of the missing data on components used to compile estimates of wealth are imputed.

3. A similar approach was used in an earlier study on wealth (Chawla and Pold 2003).

4. The current analysis is restricted to families by cohort based strictly on the age of the major income recipient rather than classifying families further into debtors and investors. Since the latter two concepts are much more volatile as families within a cohort may change status from debtor to investor and vice-versa, any further discussion based on these concepts is beyond the scope of this paper.

5. All other things being equal, the monetary needs of a family drop when children leave home, and consequently, that family has the opportunity to improve its wealth situation by using the spare funds to acquire more assets and/or pay off any outstanding debts. On the other hand, if the departure of children encouraged that family to change its lifestyle and tastes and spend more on goods and services, then the situation would be different.

6. An increase in the proportion holding savings in employer pension plans in this cohort may be attributed to a situation where an elderly major income recipient is likely living with a younger spouse and/or other family members. Data are analyzed at the family level. Different mortality rates between those with and without employer pension income may also be a factor.

7. A detailed description of the methodology used to estimate savings in employer pension plans can be found in *Survey of Financial Security – Methodology for estimating the value of employer pension plan benefits* (Cohen, Frenken and Maser 2001).This paper and the SFS questionnaires are available on the Statistics Canada website (www.statcan.ca).

8. In 1999, there were 12,216,000 family units with a total wealth of $3,432 billion. By 2005, there were 13,348,000 families with a wealth of $4,862 billion. Excluding 694,000 families with a major income recipient under 22 or who immigrated to Canada after 1999, there were 12,654,000 families remaining for the analysis. The difference of 438,000 families between 2005 and 1999 can be attributed to the re-weighting of the 1999 sample as well as to the dissolution of two-spouse families into lone-parents and unattached individuals and formation of new two-spouse units since some unattached individuals married by 2005.

9. Transfer-dependent families, who were mostly renters, may have acquired real estate other than a home when their incomes were higher. Although incomes of families change as they dissolve or members become unemployed, withdraw, or retire from the labour market, some may have kept their assets intact. Income pertains to a given calendar year, whereas when an asset was purchased is not known.

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In the works

Some of the topics in upcoming issues

■ Wages of older workers

With the aging of the baby-boomers, age-earnings profiles will be of even more importance in forecasting future pension benefits payout.

■ Employment in the trades

An analysis of employment trends in selected trade occupations using socioeconomic and job characteristics.

■ Job quality

An examination of recent contrary employment trends in "well-paid" manufacturing and "low-paid" retail trade.

■ Immigrants: Still settling for less?

Despite their higher education level, immigrants continue to be over-represented in low-skilled jobs and to have lower earnings than Canadian-born workers.

■ Time-crunched families

A profile of time-crunched families in the context of the increased labour market participation of women with children and the rising proportion of dual-earner families.

■ Employer top-ups

A look at the trends in the proportion of mothers with a paid job who receive a top-up from their employer after birth, as well as their socio-demographic and job characteristics.

Perspectives

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What's new?

Recent reports and studies

From Statistics Canada

Activity limitations and employment

Labour market performance was strong for people with activity limitations between 2001 and 2006, resulting in reduced gaps with Canadians without such limitations, in employment, labour force participation and unemployment.

People with activity limitations posted strong growth in their employment rate, from 49.3% in 2001 to 53.5% in 2006, narrowing the gap with the population without activity limitations (75.1% in 2006).

Labour force participation for people with activity limitations rose from 56.9% in 2001 to 59.6% in 2006, again reducing the gap with people without activity limitations.

The unemployment rate for people with activity limitations dropped from 13.2% in 2001 to 10.4% in 2006, narrowing the gap by roughly one-third with those without activity limitations.

People with severe or very severe activity limitations experienced solid growth in the employment rate between 2001 and 2006, from 31.8% to 38.3%.

For more information, see the July 24, 2008 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

Relative productivity levels in Canada and the U.S.

Labour productivity was lower in Canada than in the United States during the late 1990s and early 2000s, largely because of differences in multifactor productivity. From 1994 to 2003, the aggregate level of labour productivity in Canada not only lagged that of the United States, but the gap also widened in the early 2000s.

In 1994, the aggregate level of labour productivity in Canada was about 89% of the US level. By 2003, it had edged down to 87%.

Labour productivity is defined as real gross domestic product per hour worked. Differences in labour productivity can be attributed to differences in either capital intensity or multifactor productivity. The relative levels of multifactor productivity measure the difference in the overall efficiency of an economy that arises from more efficient production techniques, technology, firm innovation, firm organization, and firm scale.

Lower labour productivity in Canada over this period was due to the lower levels of multifactor productivity. Capital intensity was higher in Canada than in the United States over the same period.

For more information, see the July 21, 2008 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

Labour productivity

In the first quarter of 2008, the labour productivity of Canadian businesses declined for a second consecutive quarter due to inclement weather, reduced working hours, and a widespread drop in manufacturing output, especially in the motor vehicle industry.

Productivity of Canadian businesses edged down 0.3% in the first quarter of 2008, slowing from the 0.7% decline in the fourth quarter of 2007. The back-to-back declines followed four quarters of growth.

After reaching a plateau in the final quarter of 2007, gross domestic product experienced its first quarterly decline in nearly five years in the first quarter of 2008.

At the same time, employment continued to expand, despite job losses in manufacturing. Total hours worked remained almost unchanged, however, as the sustained growth in employment was completely offset by a drop in average hours worked per job.

For more information, see the June 13, 2008 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

■ *2006 Census: Shelter costs*

In 2006, Canada's homeownership rate reached its highest level since 1971. At the same time, the proportion of households spending 30% or more of their incomes on shelter increased slightly. Most of this increase was for homeowners with mortgages as opposed to renters or mortgage-free owners.

Of the 12.4 million households in Canada, more than 8.5 million, over two-thirds (68.4%) owned their home, the highest rate since 1971. At the same time, the proportion of households that rented their home slipped from 33.8% in 2001 to 31.2% in 2006.

An estimated 3.0 million households, or 24.9% of the total, spent 30% or more of their income on shelter, a slight gain from 2001. Among homeowners with mortgages, the proportion was 25.7%, up from 23.6% in 2001.

Shelter costs increased faster than the Consumer Price Index. For renter households, median annual shelter costs rose by 12.8% between 2001 and 2006. Over the same period, consumer prices increased by 11.3%. For owner households, spending on shelter increased by 21.6%, almost twice the increase in consumer prices.

For more information, see the June 4, 2008 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca)

■ *Hours worked and labour productivity in the provinces and territories*

Newfoundland and Labrador led the nation in labour productivity growth in 2007, while Alberta had the largest decline. In both cases, changes in the relative contribution of conventional crude oil extraction played a large role.

Nationally, productivity increased 0.7% in 2007, similar to the pace in 2006, but much weaker than in 2005. The increase occurred in the context of an appreciating Canadian dollar, and natural resource prices that remained high because of strong global demand.

Productivity surged 9.2% in Newfoundland and Labrador thanks to a recovery from the output disruptions that hindered oil extraction in 2006.

In Alberta, the transition from the traditional oil industry to the more costly oil sands continued. At the same time, Alberta's booming population led to an expansion of the labour-intensive service sector. Both changes shifted the economy away from higher productivity activities.

Labour productivity increases also surpassed the national average in Prince Edward Island, Manitoba, Quebec, New Brunswick, Saskatchewan, Ontario, Yukon, and the Northwest Territories.

For more information, see the May 14, 2008 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

■ *Canada's immigrant labour market*

Employment among core-age immigrants (25 to 54) increased 2.1% in 2007, thanks in large part to gains among immigrants in Quebec.

Despite this increase, the employment rate gap between immigrants and the Canadian born widened as the population of immigrants increased much faster than their employment. While the immigrant employment rate edged up 0.2 of a percentage point to 77.9%, the employment rate for the Canadian born rose by 0.7 of a percentage point to 83.8%.

Employment among core working-age immigrants rose by 52,000, or 2.1%, from 2006. This was stronger than the 1.3% growth among the Canadian born in the same age group.

Employment for core-age immigrants reached nearly 2.5 million. Full-time employment, which accounted for 90% of those jobs, increased 3.0%.

In 2007, over one-half of the growth in employment among core working-age immigrants occurred in Quebec.

For more information, see the May 13, 2008 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

■ *2006 Census: Earnings and income*

Median earnings of Canadians employed on a full-time basis for a full year changed little during the past quarter century, edging up from $41,300 in 1980 to $41,400 in 2005 (in 2005 dollars).

Earnings of full-time full-year earners rose for those at the top of the earnings distribution, stagnated for those in the middle and declined for those at the bottom.

During this 25-year period, recent immigrants lost ground relative to their Canadian-born counterparts. Earnings disparities between recent immigrants and Canadian-born workers increased not only during the two previous decades, but also between 2000 and 2005.

Between 1980 and 2005, median earnings of economic families in which at least one partner, or the parent, was aged between 15 and 64 increased by 9.3% to $63,700. Earnings increases were greater for families than for individuals, mainly due to the increasing participation of women in the labour market.

Although their share has declined, couples with children still have a higher median income than any other type of economic family. In 2005, their median income amounted to $82,900, up 21.6% from 1980, mostly due to the increase in dual-earner families.

The median after-tax income of all economic families in 2005 was $57,200, compared with the total or pre-tax median income of $66,300.

For more information, see the May 1, 2008 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

■ From other organizations

■ *Youth labour market performance: Canada versus the OECD*

Sustained economic growth and a very flexible labour market by international standards have contributed to rising employment rates and falling overall unemployment for all, including youth, according to a recent OECD report.

The employment rate among 15 to 24 year-olds rose to 59.5% in 2007, up from 51.5% in 1997, and well above the OECD average of 44% for both years. During the same period, the youth unemployment rate decreased from 16% to 11%, below the 2007 OECD average of 13%. The long-term youth unemployment incidence is particularly low in Canada, 2% in 2007, compared with an OECD average of 20%.

The school-to-work transition is smooth for most young Canadians, though it varies by province. Some in remote and rural areas and most Aboriginal youth on reserves still have a hard time finding a job.

Canada combines a high youth employment rate with the highest proportion in the OECD of young people attending university or college. Its secondary school drop-out rate, at 8.7% in 2005, is far lower than the 13% OECD average. However, Aboriginal youth and low school achievers are over-represented among early school-leavers, particularly in booming provinces such as Alberta. There are simply too few vocational programs to help them to stay in high school. See the OECD report *Jobs for Youth: Canada*, June 2008, 170 p.

■ *The Francophone/Anglophone wage gap in Canada*

The wage differential between Francophone and Anglophone men fell by 25 percentage points from 1970 to 2000 within Quebec, but only by 10 points Canada-wide, largely because the wages of Quebec Anglophones fell by 15 points relative to other Canadian Anglophones. Accordingly, the Canadian measure of the Francophone wage gap better reflects the changing welfare of Francophones than the Quebec measure. Over half of the reduction in the Canadian Francophone wage gap is explained by rising Francophone education levels. In Quebec, the declining number and relative wages of Anglophone workers is best explained by a falling demand for English-speaking labour. See *The wage gap between Francophones and Anglophones: A Canadian Perspective, 1970 to 2000* by David Albouy, NBER working paper No. 14203, July 2008.

■ *Wage and productivity stability in U.S. manufacturing*

Manufacturing plants vary considerably, even within industries. Consequently, the 'representative plant' view, which contends that all plants within an industry face the same technological changes and respond similarly, is likely mistaken. Studies using the U.S. Census Bureau's Longitudinal Research Database have demonstrated considerable plant-level heterogeneity in productivity and wages, even within narrowly defined industries.

'Plant effects' that persist over time are also seen. The implication is that unobserved, long-term, plant-specific factors—perhaps including the size and nature of capital endowment, as well as managerial skills and approach—play a sizable role in determining productivity and wage levels. See "Wage and productivity stability in U.S. manufacturing plants" by Mark C. Long, Kristin M. Dziczek, Daniel D. Luria, and Edith A. Wiarda, *Monthly Labor Review*, May 2008.

■ *Time use of working parents in the U.S.*

Working parents have many constraints on their time as they try to balance paid work, childcare, household activities, shopping, and leisure activities. This visual essay uses the 2003–2006 American Time Use Survey (ATUS) and looks at how married parents between the ages of 25 and 54, employed full time (usually working 35 or more hours per week), with at least one biological, step-, or adopted child under age 18, spend their time on an average day.

The ATUS enables analysts to measure how Americans spend their time in primary activities. This includes the time spent providing primary childcare and more passive secondary childcare. Focusing on both primary and secondary childcare gives a more complete picture of parents' time spent providing childcare. See "Time use of working parents: a visual essay" by Mary Dorinda Allard and Marianne Janes, *Monthly Labor Review*, June 2008.

Perspectives

We welcome your views on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to *Perspectives on Labour and Income*, 170 Tunney's Pasture Driveway, 9-A5 Jean Talon, Statistics Canada, Ottawa, Ontario K1A 0T6. Fax 613-951-4179; e-mail: perspectives@statcan.gc.ca.

Varia

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Contacts

Administrative data

Small area and administrative data
Customer Services
613-951-9720

Business surveys

Annual Survey of Manufactures and Logging
Client Services
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Annual surveys of service industries
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Employment Insurance Statistics Program
Gilles Groleau
613-951-4091

Major wage settlements
Workplace Information Directorate
(Human Resources and Social Development Canada)
819-997-3117 or 1-800-567-6866

Labour income
Anna MacDonald
613-951-3784

Survey of Labour and Income Dynamics
Survey of Financial Security
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Client Services
613-951-7355 or 1-888-297-7355

General Social Survey

Education, Work and Retirement
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Pension surveys

Pension Plans in Canada Survey
Bruno Pépin
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Quarterly Survey of Trusteed Pension Funds
Gregory Sannes
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Special surveys

Adult Education and Training Survey
Client Services
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National Graduates Survey
Client Services
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Unionization

Unionization rates in first half of 2007 and 2008

Average paid employment (employees) during the first half of 2008 was 14.4 million, an increase of 317,000 over the same period a year earlier (Table 1). On the other hand, union membership increased by only 53,000 to 4.2 million. With union membership growing less rapidly than employment, the unionization rate declined slightly from 29.7% to 29.4%.

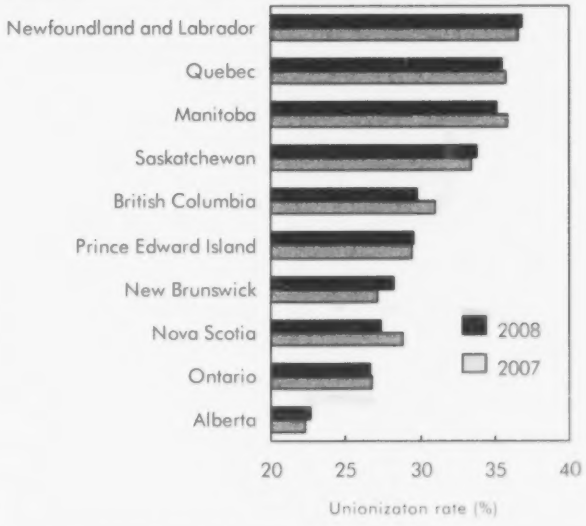
Unionization rates remained unchanged for women and declined slightly for men. At 30.0%, the women's rate in 2008 continued to exceed the rate for men (28.7%).

Unionization declined slightly in both the public and private sectors, to 71.0% and 16.3% respectively.

Five provinces recorded increases: Newfoundland and Labrador, Prince Edward Island, New Brunswick, Saskatchewan and Alberta. The five remaining provinces saw decreases (Chart A).

Unionization rates fell from 31.2% to 30.9% for full-time workers and from 22.9% to 22.7% for part-time workers.

Chart A Newfoundland and Labrador, the most unionized province; Alberta, the least



Source: Statistics Canada, Labour Force Survey, January-to-June averages.

Data sources

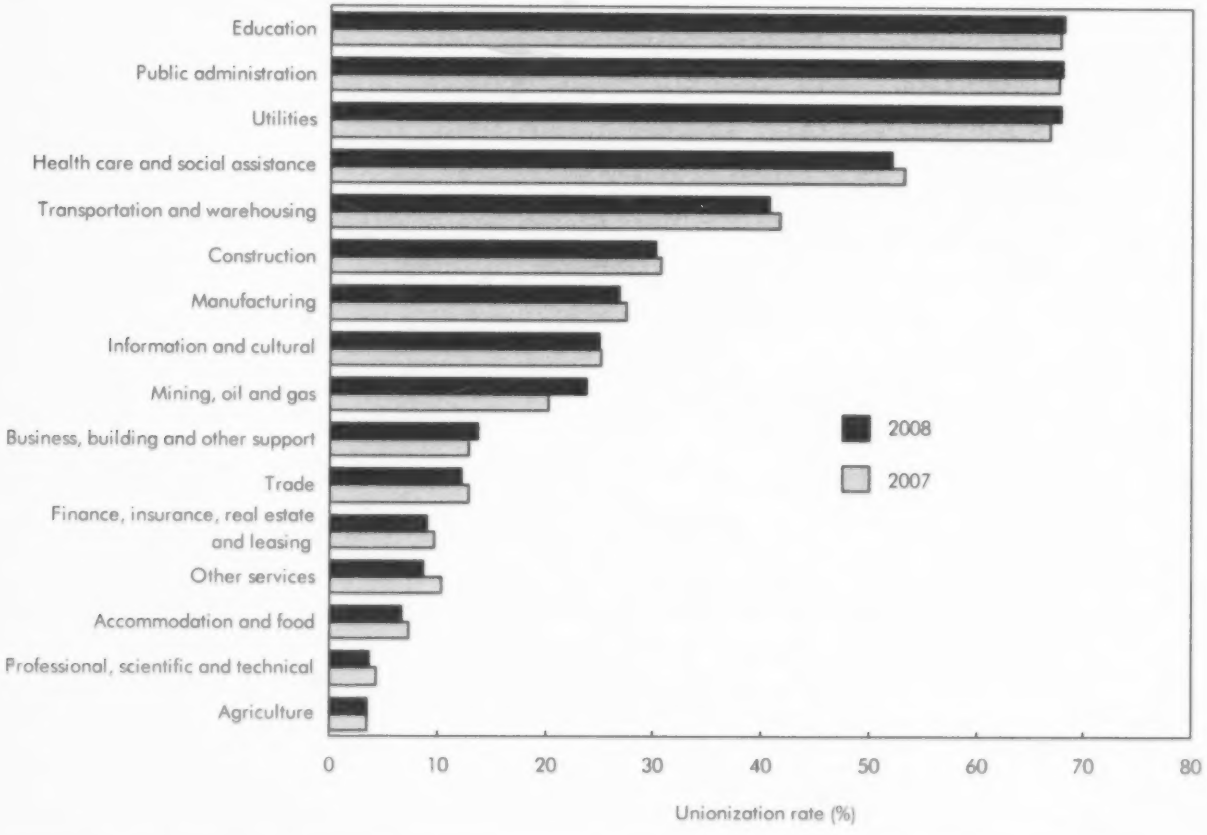
Information on union membership, density and coverage by various socio-demographic characteristics, including earnings, are from the Labour Force Survey. Further details can be obtained from Marc Lévesque, Labour Statistics Division, Statistics Canada at 613-951-4090.

Data on strikes, lockouts and workdays lost, and those on major wage settlements were supplied by Human Resources and Social Development Canada (HRSDC). Further information on these statistics may be obtained from Client services, Workplace Information Directorate, HRSDC at 1-800-567-6866.

The unionization rate for permanent employees declined to 29.7%, but increased to 26.8% for those in non-permanent jobs. The rate fell in workplaces with fewer than 20 employees, and in those with 100 to 500. On the other hand, it increased in those with more than 500 employees and those with 20 to 99 employees.

Unionization rose in 5 of the 16 major industry groups: mining, oil and gas; public support services; business, building and other services; educational services; and public administration. It remained stable for agriculture, while all other industry groups registered declines (Chart B).

Chart B The highest unionization rates were in public sector industries

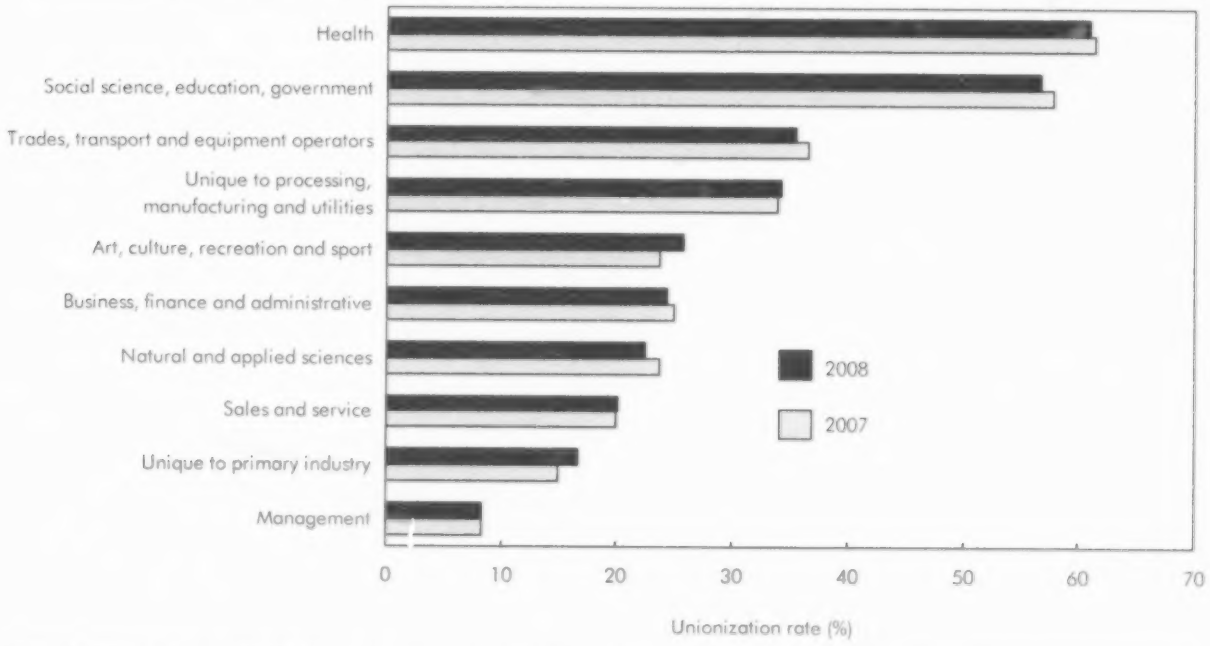


Source: Statistics Canada, Labour Force Survey, January-to-June averages.

Among the 10 major occupational groups, unionization rose in 4: art, culture, recreation and sport; primary sector occupations; those unique to processing, manufacturing and public utilities; and sales and service. Management remained stable, while the rest showed declines (Chart C).

The number of employees who were not union members but were covered by a collective agreement averaged 301,000 in the first half of 2008, down slightly from 308,000 a year earlier (data not shown—see Akyeampong 2000 for a description of this group).

Chart C Unionization in community service occupations far outpaced that in others



Source: Statistics Canada, Labour Force Survey, January-to-June averages.

Table 1 Union membership and coverage by selected characteristics

	2007			2008		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage[1]		Members	Coverage[1]
	'000	%	%	'000	%	%
Both sexes	**14,087**	**29.7**	**31.8**	**14,404**	**29.4**	**31.5**
Men	7,059	29.3	31.7	7,221	28.7	31.1
Women	7,027	30.0	32.0	7,183	30.0	31.9
Sector[2]						
Public	3,257	71.7	75.2	3,443	71.0	74.5
Private	10,830	17.0	18.8	10,962	16.3	17.9
Age						
15 to 24	2,418	13.3	15.0	2,464	13.5	15.2
25 to 54	9,911	32.7	35.0	10,032	32.3	34.5
25 to 44	6,592	29.8	32.1	6,614	29.4	31.8
45 to 54	3,319	38.3	40.7	3,418	37.7	39.7
55 and over	1,758	35.1	37.4	1,909	34.6	36.5
Education						
Less than Grade 9	323	25.9	27.7	316	24.7	26.0
Some high school	1,490	21.1	22.8	1,502	19.9	21.6
High school graduation	2,874	25.8	27.4	2,877	25.9	27.5
Some postsecondary	1,188	20.9	22.9	1,283	22.1	23.8
Postsecondary certificate or diploma	4,937	33.8	36.2	5,063	33.0	35.3
University degree	3,274	34.1	36.9	3,364	34.3	36.9
Province						
Atlantic	945	29.9	31.2	962	29.7	31.2
Newfoundland and Labrador	187	36.6	38.3	193	36.8	39.0
Prince Edward Island	58	29.5	30.7	60	29.6	31.1
Nova Scotia	386	28.9	30.0	390	27.4	28.2
New Brunswick	314	27.1	28.4	319	28.3	30.0
Quebec	3,259	35.8	39.4	3,299	35.5	39.2
Ontario	5,548	26.8	28.5	5,658	26.7	28.2
Prairies	2,516	26.8	28.7	2,592	26.9	28.8
Manitoba	505	35.9	37.7	517	35.1	37.1
Saskatchewan	405	33.4	35.3	415	33.8	35.3
Alberta	1,606	22.3	24.2	1,660	22.7	24.6
British Columbia	1,818	31.0	32.9	1,894	29.8	31.4
Work status						
Full-time	11,483	31.2	33.5	11,765	30.9	33.1
Part-time	2,604	22.9	24.6	2,639	22.7	24.3
Industry						
Goods-producing	3,209	28.2	30.5	3,214	28.4	30.4
Agriculture	122	3.5	5.1	116	3.5	4.2
Mining, oil and gas	285	20.2	22.1	285	23.7	25.6
Utilities	131	66.7	71.2	151	67.7	70.5
Construction	727	30.6	32.8	802	30.2	32.0
Manufacturing	1,944	27.5	29.7	1,861	26.8	28.8
Service-producing	10,877	30.1	32.2	11,190	29.6	31.8
Trade	2,355	12.9	14.5	2,392	12.2	13.8
Transportation and warehousing	673	41.7	43.8	700	40.6	42.5
Finance, insurance, real estate and leasing	877	9.7	11.2	894	9.0	10.6
Professional, scientific and technical	743	4.3	5.5	811	3.6	4.9
Business, building and other support	519	12.9	14.7	522	13.7	15.3
Education	1,175	67.8	71.5	1,187	68.1	71.7
Health care and social assistance	1,605	53.3	55.5	1,650	52.1	53.8
Information and cultural	642	25.1	26.8	632	24.9	26.9
Accommodation and food	961	7.4	8.3	964	6.7	7.6
Other	488	10.3	12.5	519	8.7	10.7
Public administration	839	67.6	72.6	918	67.9	73.6

Table 1 Union membership and coverage by selected characteristics (concluded)

	2007			2008		
		Union density			Union density	
	Total employees	Members	Coverage[1]	Total employees	Members	Coverage[1]
	'000	%	%	'000	%	%
Occupation						
Management	988	8.3	10.9	1,036	8.3	10.8
Business, finance and administrative	2,700	24.9	27.0	2,840	24.3	26.3
Professional	378	17.2	18.9	395	17.1	18.9
Financial and administrative	685	23.2	25.6	775	22.4	24.6
Clerical	1,637	27.3	29.4	1,670	26.9	28.8
Natural and applied sciences	1,030	23.7	25.8	1,074	22.5	24.8
Health	864	61.4	63.2	882	60.9	63.1
Professional	101	40.2	45.3	89	41.6	47.0
Nursing	266	81.2	82.9	275	77.2	79.1
Technical	229	56.5	58.0	208	56.4	58.5
Support staff	268	53.8	55.0	310	55.1	56.6
Social and public service	1,298	57.7	61.0	1,351	56.7	59.4
Legal, social and religious workers	589	36.8	40.0	640	37.1	39.4
Teachers and professors	710	75.1	78.4	711	74.3	77.4
Secondary and elementary	478	86.8	89.0	480	86.4	88.2
Other	232	50.8	56.6	231	49.0	54.8
Art, culture, recreation and sport	301	23.7	26.1	330	25.8	28.8
Sales and service	3,674	20.0	21.7	3,658	20.1	21.8
Wholesale	381	5.4	6.5	361	4.9	6.0
Retail	1,062	12.3	13.6	1,037	11.6	12.8
Food and beverage	561	7.8	8.6	533	9.1	10.0
Protective services	231	54.9	62.0	245	51.8	59.0
Child care and home support	190	45.6	48.7	185	47.3	49.6
Travel and accommodation	1,250	26.1	27.7	1,297	25.9	27.3
Trades, transport and equipment operators	2,007	36.5	38.8	2,094	35.5	37.5
Contractors and supervisors	111	32.3	34.9	134	28.6	30.6
Construction trades	256	37.7	39.9	274	37.5	39.6
Other trades	793	39.6	41.9	850	36.4	38.6
Transportation equipment operators	511	36.3	38.1	492	37.0	38.6
Helpers and labourers	337	29.8	33.2	343	32.3	34.4
Unique to primary industry	277	14.9	16.9	263	16.7	18.6
Unique to processing, manufacturing and utilities	946	33.9	36.2	876	34.2	36.4
Machine operators and assemblers	751	33.9	36.1	697	34.5	36.8
Labourers	196	33.6	36.5	178	33.0	34.9
Workplace size						
Under 20 employees	4,598	13.1	14.7	4,713	12.6	14.2
20 to 99 employees	4,638	30.0	32.3	4,708	30.3	32.4
100 to 500 employees	2,976	41.1	43.8	3,073	39.6	42.0
Over 500 employees	1,874	51.2	53.8	1,910	52.0	54.8
Job tenure						
1 to 12 months	3,341	14.9	17.3	3,432	15.9	18.2
Over 1 year to 5 years	4,448	23.1	25.1	4,584	22.8	24.6
Over 5 years to 9 years	2,206	32.9	35.1	2,135	33.4	35.6
Over 9 years to 14 years	1,308	36.6	38.7	1,434	35.3	37.0
Over 14 years	2,784	51.9	54.4	2,819	50.4	52.8
Job status						
Permanent	12,310	30.2	32.3	12,728	29.7	31.7
Non-permanent	1,777	25.8	28.5	1,676	26.8	29.6

1. Union members and persons who are not union members but covered by collective agreements (for example, some religious group members).
2. Public sector employees are those working for government departments or agencies, Crown corporations, or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

Source: Statistics Canada, Labour Force Survey, January-to-June averages.

2007 annual averages

Approximately 4.2 million employees (29.3%) (Table 2) belonged to a union in 2007 and some 316,000 (2.2%) were covered by a collective agreement.

Those in the public sector—government, Crown corporations, and publicly funded schools or hospitals—were over four times more likely than their private-sector counterparts to belong to a union (71.0% versus 16.8%).

Almost one in three full-time employees belonged to a union, compared with about one in four part-time. Also, almost one in three permanent employees were union members, compared with one in four non-permanent.

High unionization rates were found among employees aged 45 to 54 (38.2%); among those with a university degree (33.6%) or a post- secondary certificate or diploma (33.5%); in Newfoundland and Labrador (36.0%) and in Quebec (35.9%); as well as in educational services (66.9%), public administration (67.5%), and utilities (65.7%); and in health care occupations (61.9%). Low unionization rates were recorded among 15 to 24 year-olds (13.2%); in Alberta (21.8%); in agriculture (4.0%) and professional, scientific and technical services (4.3%); and in management occupations (8.3%).

Table 2 Union membership, 2007

	Total employees	Union member[1]	
		Total	Density
	'000	'000	%
Both sexes	14,251	4,175	29.3
Men	7,186	2,070	28.8
Women	7,066	2,105	29.8
Sector[2]			
Public	3,283	2,331	71.0
Private	10,969	1,845	16.8
Age			
15 to 24	2,500	330	13.2
25 to 54	9,959	3,226	32.4
25 to 44	6,607	1,944	29.4
45 to 54	3,353	1,282	38.2
55 and over	1,792	620	34.6
Education			
Less than Grade 9	325	80	24.7
Some high school	1,496	306	20.5
High school graduation	2,932	754	25.7
Some postsecondary	1,220	257	21.1
Postsecondary certificate or diploma	5,003	1,677	33.5
University degree	3,276	1,101	33.6
Province			
Atlantic	964	282	29.2
Newfoundland and Labrador	193	70	36.0
Prince Edward Island	60	17	28.3
Nova Scotia	391	111	28.4
New Brunswick	321	85	26.5
Quebec	3,300	1,183	35.9
Ontario	5,607	1,486	26.5
Prairies	2,540	667	26.3
Manitoba	508	178	35.0
Saskatchewan	409	135	33.1
Alberta	1,623	354	21.8
British Columbia	1,841	557	30.3
Work status			
Full-time	11,716	3,599	30.7
Part-time	2,535	577	22.7
Industry			
Goods-producing	3,278	928	28.3
Agriculture	127	5	4.0
Mining, oil and gas	288	60	20.8
Utilities	138	91	65.7
Construction	780	238	30.5
Manufacturing	1,944	534	27.5
Service-producing	10,974	3,248	29.6
Trade	2,380	303	12.7
Transportation and warehousing	680	277	40.7
Finance, insurance, real estate and leasing	877	84	9.6
Professional, scientific and technical	757	32	4.3
Business, building and other support	542	69	12.7
Education	1,130	756	66.9
Health care and social assistance	1,621	862	53.2
Information and cultural	661	165	25.0
Accommodation and food	970	71	7.3
Other	492	45	9.1
Public administration	864	583	67.5

Table 2 Union membership, 2007 (concluded)

	Total employees	Union member[1]	
		Total	Density
	'000	'000	%
Occupation			
Management	1,006	84	8.3
Business, finance and administrative	2,753	677	24.6
Professional	376	64	17.1
Financial and administrative	712	163	23.0
Clerical	1,666	449	27.0
Natural and applied sciences	1,051	243	23.2
Health	864	535	61.9
Professional	98	41	41.6
Nursing	273	218	79.7
Technical	217	125	57.8
Support staff	276	151	54.7
Social and public service	1,276	716	56.1
Legal, social and religious workers	600	217	36.2
Teachers and professors	676	499	73.8
Secondary and elementary	447	385	86.1
Other	229	114	49.8
Art, culture, recreation and sport	324	79	24.3
Sales and service	3,687	726	19.7
Wholesale	384	20	5.1
Retail	1,069	127	11.9
Food and beverage	556	44	7.9
Protective services	235	129	54.8
Child care and home support	178	82	46.3
Travel and accommodation	1,265	324	25.6
Trades, transport and equipment operators	2,066	753	36.4
Contractors and supervisors	114	36	31.7
Construction trades	275	110	39.8
Other trades	811	318	39.2
Transportation equipment operators	519	184	35.5
Helpers and labourers	347	105	30.2
Unique to primary industries	293	44	15.1
Unique to processing, manufacturing and utilities	930	320	34.4
Machine operators and assemblers	737	252	34.3
Labourers	194	67	34.7
Workplace size			
Under 20 employees	4,684	607	13.0
20 to 99 employees	4,670	1,375	29.5
100 to 500 employees	2,994	1,207	40.3
Over 500 employees	1,904	985	51.7
Job tenure			
1 to 12 months	3,425	509	14.8
Over 1 year to 5 years	4,494	1,031	22.9
Over 5 years to 9 years	2,209	722	32.7
Over 9 years to 14 years	1,321	478	36.2
Over 14 years	2,802	1,436	51.2
Job status			
Permanent	12,409	3,710	29.9
Non-permanent	1,843	465	25.3

1. Excludes non-members covered by a collective agreement.
2. Public sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

Source: Statistics Canada, Labour Force Survey.

Differences between the sexes

For the fourth year in a row, the unionization rate for women in 2007 surpassed that of men (29.8% versus 28.8%).

Among men, part-time employees had a much lower rate than full-time employees (18.0% versus 30.1%). Among women, the gap was narrower (24.8% versus 31.5%) (data not shown). The unionization rate for women in the public sector (72.8%) exceeded that of men (68.2%), reflecting women's presence in public administration, and in teaching and health positions. However, in the private sector, only 12.5% were unionized, compared with 20.9% of men. The lower rate among women reflected their predominance in sales and several service occupations.

A higher-than-average rate was recorded among men with a postsecondary certificate or diploma (33.9%). For women, the highest rate was among those with a university degree (40.0%), reflecting unionization in occupations like health care and teaching.

Among those in permanent positions, the rate for men (29.6%) was similar to that for women (30.2%). Among those in non-permanent positions, women were more unionized than men (27.2% versus 23.2%).

Average earnings and usual hours

Unionized jobs generally provide higher earnings than non-unionized jobs (Table 3). However, factors other than collective bargaining provisions also play a role. These include varying distributions of unionized employees by age, sex, job tenure, industry, occupation, firm size, and geographical location.

Although the effects of these factors have not been examined, it is clear that unionized workers and jobs tend to have certain characteristics that are associated with higher earnings. For example, the unionization rate is higher among older workers, those with higher education, those with long tenure, and those in larger workplaces. Although differences in earnings and non-wage benefits cannot be attributed solely to union status (Akyeampong 2002), the union wage premium (after adjusting for employee and workplace characteristics) has been estimated at 7.7% (Fang and Verma 2002).

In 2007, the average hourly earnings of unionized workers were higher than those of non-unionized workers. This held true for both full-time ($24.15 versus $20.55) and part-time ($19.99 versus $12.56) employees.

In addition to having higher hourly earnings, unionized part-time employees generally worked more hours per week than their non-unionized counterparts (19.3 versus 16.9). As a result, their average weekly earnings were much higher ($391.14 versus $216.43) (data not shown).

On average, unionized women working full time received about 94% as much in hourly earnings as their male counterparts. In contrast, unionized women working part time earned 14% more.

Table 3 Average earnings and usual hours by union and job status, 2007

	Hourly earnings			Usual weekly hours, main job		
	All employees	Full-time	Part-time	All employees	Full-time	Part-time
	$					
Both sexes	20.41	21.73	14.33	35.6	39.5	17.4
Union member	23.58	24.15	19.99	36.0	38.7	19.3
Union coverage[1]	23.51	24.11	19.81	36.0	38.7	19.1
Not a union member[2]	18.98	20.55	12.56	35.4	39.9	16.9
Men	22.17	23.24	13.25	38.1	40.7	16.5
Union member	24.38	24.83	18.10	38.4	39.8	18.2
Union coverage[1]	24.32	24.79	17.94	38.4	39.9	18.0
Not a union member[2]	21.20	22.50	12.07	38.0	41.1	16.2
Women	18.62	19.89	14.80	33.0	38.0	17.8
Union member	22.79	23.36	20.59	33.6	37.3	19.6
Union coverage[1]	22.71	23.31	20.43	33.6	37.3	19.5
Not a union member[2]	16.71	18.16	12.78	32.6	38.3	17.2
Atlantic	17.22	18.19	12.22	36.7	40.4	17.5
Union member	21.98	22.22	19.76	37.6	39.5	20.0
Union coverage[1]	21.90	22.16	19.54	37.6	39.6	19.8
Not a union member[2]	15.15	16.24	10.50	36.3	40.8	17.0
Quebec	19.35	20.52	14.15	34.5	38.2	18.0
Union member	22.10	22.52	19.41	35.2	37.6	20.0
Union coverage[1]	21.92	22.39	18.98	35.3	37.7	19.8
Not a union member[2]	17.66	19.17	12.14	34.0	38.6	17.2
Ontario	21.27	22.83	14.01	35.6	39.6	17.0
Union member	24.86	25.70	19.48	36.1	38.9	18.6
Union coverage[1]	24.85	25.70	19.41	36.2	38.9	18.5
Not a union member[2]	19.86	21.62	12.53	35.3	39.8	16.7
Prairies	21.06	22.24	15.04	36.7	40.5	17.4
Union member	23.71	24.23	20.59	36.4	39.3	19.3
Union coverage[1]	23.81	24.34	20.60	36.5	39.4	19.2
Not a union member[2]	19.97	21.39	13.24	36.8	40.9	16.8
British Columbia	20.49	21.67	15.62	35.3	39.6	17.5
Union member	23.94	24.39	21.61	35.8	39.0	19.3
Union coverage[1]	23.93	24.41	21.49	35.8	39.1	19.1
Not a union member[2]	18.86	20.29	13.47	35.0	39.9	16.9

1. Union members and persons who are not union members but covered by collective agreements (for example, some religious group members).
2. Workers who are neither union members nor covered by collective agreements.
Source: Statistics Canada, Labour Force Survey.

Wage settlements, inflation and labour disputes

Wage gains of 3.3% in 2007 significantly surpassed the rate of inflation (1.9%) (Table 4). This reflects the third consecutive year in which wage increases were greater than the rate of inflation, although the differences in the two preceding years were not significant. The 2007 trend continued during the first four months of 2008, with wage gains averaging 3.4%, while inflation stood at 1.8%.

Wage gains in the public sector in 2007 (3.4%) surpassed those in the private sector (3.1%). The gap reversed and widened in the first four months of 2008. The corresponding gains were 3.2% and 4.0%.

Annual statistics on strikes, lockouts and person-days lost are affected by several factors, including collective bargaining timetables, size of the unions involved, strike or lockout duration, and state of the economy. The number of collective agreements up for renewal in a year determines the potential for industrial disputes. Union size and strike or lockout duration determine

Table 4 Major wage settlements, inflation and labour disputes

	Average annual increase in base wage rates[1]				Labour disputes and time lost[3]			
Year	Public sector employees[2]	Private sector employees[2]	Total employees	Annual change in consumer price index[1]	Strikes and lockouts[4]	Workers involved	Person-days not worked	Proportion of estimated working time
			%			'000	'000	%
1980	10.9	11.7	11.1	10.1	1,028	452	9,130	0.37
1981	13.1	12.6	13.0	12.4	1,049	342	8,850	0.35
1982	10.4	9.5	10.2	10.9	679	464	5,702	0.23
1983	4.6	5.5	4.8	5.8	645	330	4,441	0.18
1984	3.9	3.2	3.6	4.3	716	187	3,883	0.15
1985	3.8	3.3	3.7	4.0	829	164	3,126	0.12
1986	3.6	3.0	3.4	4.1	748	486	7,151	0.27
1987	4.1	3.8	4.0	4.4	668	582	3,810	0.14
1988	4.0	5.0	4.4	4.0	548	207	4,901	0.17
1989	5.2	5.2	5.2	5.0	627	445	3,701	0.13
1990	5.6	5.7	5.6	4.8	579	271	5,079	0.17
1991	3.4	4.4	3.6	5.6	463	254	2,516	0.09
1992	2.0	2.6	2.1	1.5	404	152	2,110	0.07
1993	0.6	0.8	0.7	1.8	381	102	1,517	0.05
1994	0.0	1.2	0.3	0.2	374	81	1,607	0.06
1995	0.6	1.4	0.9	2.2	328	149	1,583	0.05
1996	0.5	1.7	0.9	1.6	330	276	3,269	0.11
1997	1.1	1.8	1.5	1.6	284	258	3,608	0.12
1998	1.6	1.8	1.7	0.9	381	244	2,444	0.08
1999	2.0	2.7	2.2	1.7	413	160	2,443	0.08
2000	2.5	2.4	2.5	2.7	379	144	1,657	0.05
2001	3.4	3.0	3.3	2.6	381	221	2,199	0.07
2002	2.9	2.6	2.8	2.2	294	168	3,033	0.09
2003	2.9	1.2	2.5	2.8	266	81	1,736	0.05
2004	1.4	2.3	1.8	1.9	297	260	3,209	0.09
2005	2.2	2.5	2.3	2.2	260	199	4,150	0.12
2006	2.6	2.2	2.5	2.4	151	42	791	0.02
2007	3.4	3.1	3.3	1.9	207	67	1,791	0.05
2008[5]	3.2	4.0	3.4	1.8				

1. Involving 500 or more employees.
2. Public sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.
3. Involving 1 worker or more.
4. Ten person-days not worked.
5. 2008 data refer to January to April only.

Sources: Statistics Canada, Prices Division; Human Resources and Social Development Canada, Workplace Information Directorate.

the number of person-days lost. The state of the economy influences the likelihood of an industrial dispute, given that one is legally possible. The estimated number of person-days lost through strikes and lockouts dropped to less than a fifth, from 4.1 million in 2005 to 791,000 in 2006. In 2007, however, it rebounded sharply, reaching 1.8 million.

Perspectives

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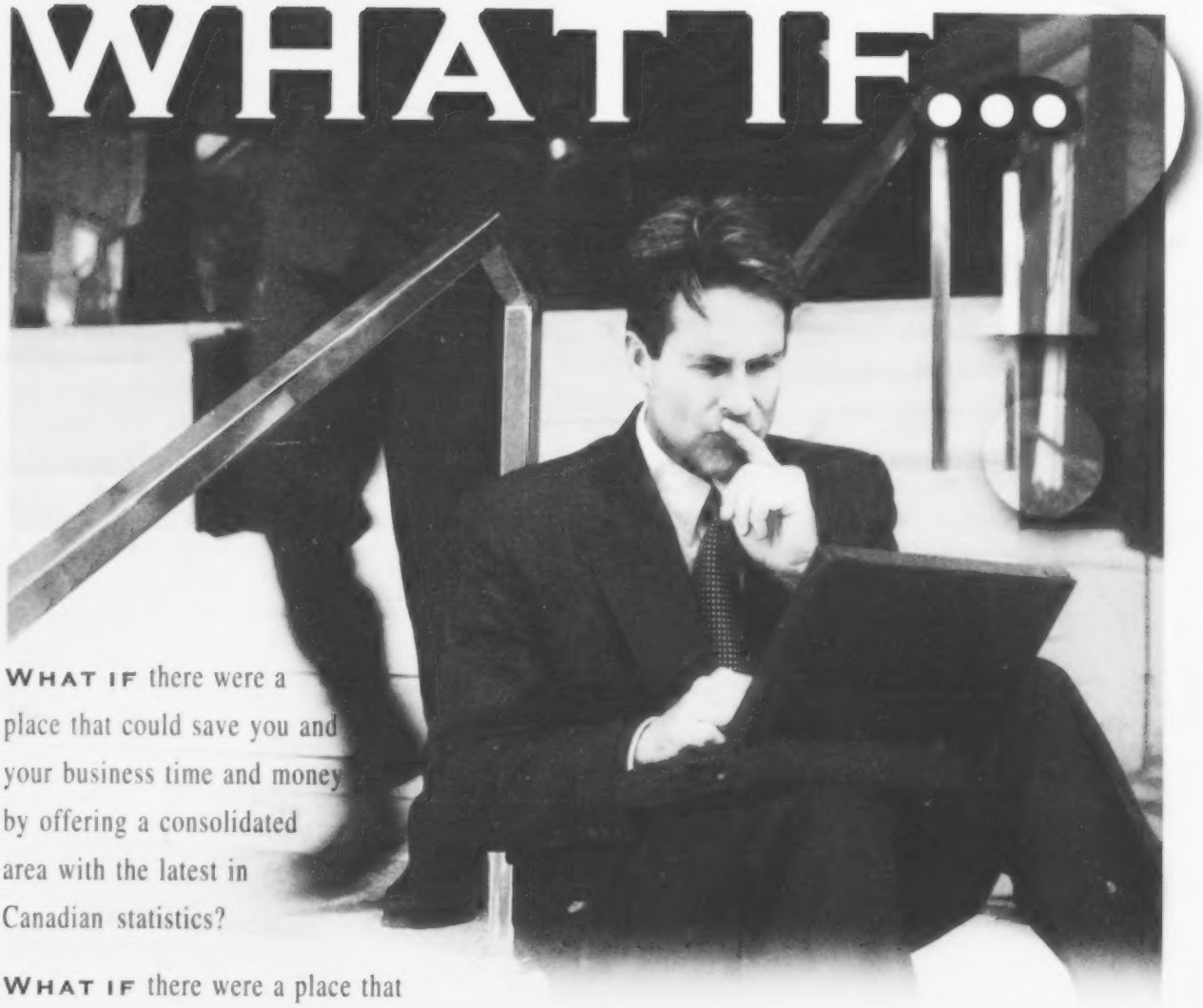

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